

CHINA KNOWLEDGE SERIES

A  
SIMPLE GEOGRAPHY  
OF CHINA

WANG CHUN-HENG



3 - SOIL  
climate  
Bob

University of Colorado at Boulder



U18304 0865775



This book provides some basic knowledge about the geography of China and the changes taking place in this aspect since 1949, when the country entered a new stage of development. It is composed of two parts:

Part I is a general description of China's location and borders, physical features, mineral resources, climate, seas, rivers and lakes, soils and vegetation, population and people. Part II deals with the twelve regions into which China is customarily divided. Under the heading of each region is given its location and physical features, climate, soils and vegetation, utilization and control of lakes and rivers, inhabitants, economic development, communications and cities.

The whole book contains up-to-date figures and facts related to China's socialist construction. There are 47 maps showing its administrative divisions, topography, waterways, temperatures, distribution of cities, mineral resources, plans for the control of the Yellow and Huai rivers, etc.

Appended to the book is an index of names of places mentioned in the text.



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A SIMPLE GEOGRAPHY  
OF CHINA

WANG CHUN-HENG



FOREIGN LANGUAGES PRESS

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# Administrative Divisions of China



(Drawn after the Atlas of China published by the Shun Pao of Shanghai before the War of Resistance to Japanese Aggression. Internal administrative regions corrected according to new data.)

# PHYSICAL MAP OF CHINA



## Legend

Altitudes (metres)		River & Lake	
5000	3000	—	—
1000	500	—	—
200	Sea level	—	—
200	2000	—	—
4000		—	—

—	Canal
—	Swamp
—	Desert
▲	Peak
○	City
— (UNDEFINED)	National Boundary
—	Regional Boundary
—	Provincial Boundary

Scale

1:19,000,000

0 220 440 660 880 km.

(Drawn after the Atlas of China published by the Shun Pao of Shanghai before the War of Resistance to Japanese Aggression. Internal administrative regions corrected according to new data.)

→ Warm currents  
← Cold currents





## EDITOR'S NOTE

In this book illustrated with maps and photographs, an attempt is made to acquaint the readers with some basic facts about the geography of China. Although many similar books in English are available, they treat inadequately, if at all, of the changes in geographical features brought about after 1949, when the country entered a new historic stage. The present work seeks to remedy this obvious defect.

The book is in two parts. The first deals with China's general geography, that is, its natural features, population and peoples of the country as a whole. The second part describes each of the many regions into which China is customarily divided. Controversy, it is true, is still current among Chinese geographers as to how best the country should be divided geographically, physically and economically. This, however, is a subject outside the confines of this book.

The maps in this book have been drawn according to the *Atlas of China* published by the Shanghai *Shun Pao* before the anti-Japanese war. The administrative divisions, however, have been revised in keeping with the current situation in China.



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### ERRATA

<i>Page</i>	<i>Line</i>	
148	15	<i>For "six and a half times" read "seven and a half times"</i>
153	5	<i>For "in the Leichow Peninsula" read "in south-western Kwangtung"</i>
154	4	<i>For "in the third century" read "in the third century B. C."</i>
155	5	<i>For "Hanoi" read "Hanoi"</i>
176	20	<i>For "a thousand species of plants" read "ten thousand species of plants"</i>
227	23	<i>For "739,000" read "7,390,000"</i>

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*Part I*  
PHYSICAL



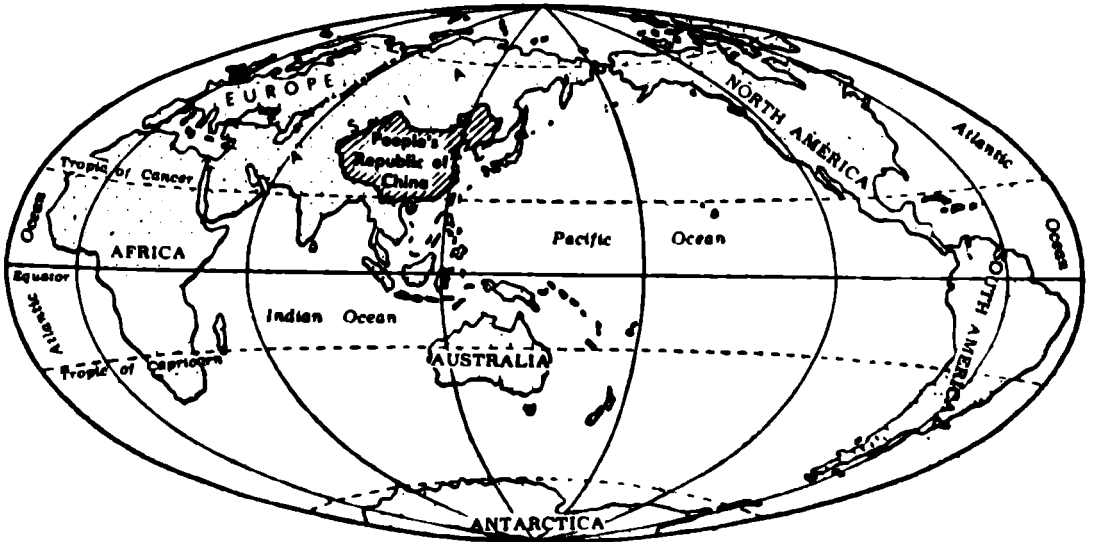
# CHAPTER ONE

## GEOGRAPHICAL POSITION AND BORDERS

### Position and Area

**Position.** China has been placed in a favourable geographical position. It is in the northern hemisphere and is cut in the south by the Tropic of Cancer. Most of the country lies in the temperate zone.

It stands on the south-east of Asia, the world's largest continent, and its eastern coast is washed by the waters of the Pacific, the world's greatest ocean.



**China's Position on the Globe**

**Territory.** China's border (exclusive of islands) is more than 26,000 kilometres long. If one were to walk this distance at the speed of 30 kilometres a day it would take two years and four and a half months. From south to north the territory measures 5,500 kilometres, extending from Latitude 4°N., south of the Tsengmu Reef, to 53°N., the midstream of the Heilung Kiang (Amur River), around Moho. From west to east, it is about 5,000 kilometres, starting from the Pamirs, near Longitude 73°E., to where the Heilung Kiang meets the Ussuri River at 135°E.

The time variation between the easternmost and westernmost regions is more than four hours. When the people of eastern Heilungkiang Province have done the morning's work and are preparing their midday meal, it is 7 a.m. for the inhabitants of the western part of the Sinkiang Uighur Autonomous Region.

The total area of the land measures about 9,600,000 square kilometres, making China the third largest country in the world, next to the Soviet Union and Canada.

## Borders

China's land border is more than 15,000 kilometres long. Its territory is contiguous to Korea, the Soviet Union, the People's Republic of Mongolia, Afghanistan, India, Nepal, Burma, Laos and Vietnam. The eastern and southeastern coastal border (exclusive of islands) is about 11,000 kilometres long and faces Japan, the Philippines and Indonesia across the seas.

**Land Border.** The border between China and Korea is mostly formed by the Yalu and Tumen rivers. The



Changpai Mountains sprawl on the vast plains of North-east China and Korea. The border between China and the Soviet Union and the People's Republic of Mongolia stretches from Kirin to western Sinkiang. In the north-east, Hsingkai Lake and the Ussuri River and Heilung Kiang divide China and the Soviet Union. Here, China shares its mountains and rivers with the Soviet Union, as it does with Korea farther south. In Sinkiang, the border cuts across mountain ranges and rivers. Valleys and waterways are accessible to the peoples on either side, making travel convenient. The Pamirs, known as the Roof of the World, straddle the border between China and the Soviet Union and Afghanistan.

The area between China and the People's Republic of Mongolia is steppe and desert, except for a part where western Mongolia meets Sinkiang. Here the monotony of the desert is broken by the Altai Mountains.

In the south-west, Kwangsi and Yunnan share a common frontier with Vietnam and Laos. The towering Himalaya Mountains stand between China's Tibet and India and Nepal. Several great rivers and mountains of the Hengtuan Mountain Area run across the border between western Yunnan and Burma.

**Maritime Border.** China has not only a long coastline but also many islands: the island groups of the South China Sea, Hainan, Taiwan, Penghu Islands, the Choushan Archipelago, etc., of which Taiwan and Hainan are the biggest. They are strung out like a bow off the south-east coast.

To the east, across the Yellow and East China seas is Japan. To the south-east, across the South China Sea are the Philippines and Indonesia.

## CHAPTER TWO

# SEAS

### The Coast and Islands

China's long stretch of mainland coast, starting from the mouth of the Yalu River on the Chinese-Korean border in the north and ending at the mouth of the Peilun River on the Chinese-Vietnamese border in the south, is one-fourth the length of the Equator; if the island coasts are included, the total coastline will add up to more than 20,000 kilometres.

**The Coast.** The coast consists of sandy and rocky sections. The characteristics of sandy coast are: (a) the background is a plain; (b) the coastline, in general, is not deeply indented and the coastal waters are shallow; spits are formed by sand and silt in the neighbourhood of the mouths of rivers; (c) in the shallow offshore waters are sand bars, which reveal themselves at low tide; and (d) there are relatively few islands off the coast.

The sandy coast provides wide possibilities for developing the salt and chemical industries and fisheries. But it lacks good natural harbours.

The rocky coast, on the other hand, is opposite in most respects. The land along the coast is uneven and hilly and the coastline jagged. Islands lie scattered off the shore. It has many excellent harbours and fishing grounds.

Most of the coast north of the Hangchow Bay is sandy. The exceptions are the Shantung Peninsula, the Liaotung Peninsula and Chinwangtao which have rocky coasts. North Kiangsu and the Po Hai coast are famous salt-producing areas and are also rich in marine products. The Shantung and Liaotung peninsulas with their many harbours and islands provide favourable facilities for shipping.

South of the Hangchow Bay, most of the coast is rocky, broken, however, with patches of sandy shoreline in the Leichow Peninsula and at the mouths of some rivers. These rocky coasts have many indentations suitable for the construction of ports and for a highly developed fishing industry.

**Islands.** China has more than 3,400 islands, of which 96 per cent are continental islands and 4 per cent ocean islands. Continental islands are a continuation of the coastal hills which remain above sea level. Ocean islands are mostly in the South China Sea and more often than not mere coral reefs rising only a few metres above sea level.

Most of China's islands lie off the rocky coasts of Chekiang, Fukien and Kwangtung.

## The Seas

**Division of Sea Surface.** The sea forms a semi-circle around the eastern coast. It has been generally divided into four parts: Po Hai (the Po Sea), Huang Hai (the Yellow Sea), Tung Hai (the East China Sea) and Nan Hai (the South China Sea).

1) The Po Hai. The sea between the Shantung and Liaotung peninsulas is called Po Hai which includes the

Liaotung Bay and the Po Hai Bay, carved into the land mass. Eastwards, opening the way to the Yellow Sea is the Po Hai Strait, more than 100 kilometres wide and studded with islands. It is a natural defence strong-point for North China. Most of the Po Hai coast is suitable for drying salt. It is the country's largest salt producer along the coast. To overcome the obstacles of frozen waters and excessive silting along the coast, a giant man-made harbour, named Hsinkang Harbour, has been built at Tangku where the Hai Ho enters the Po Hai Bay. Ice-breakers have ended the pre-liberation "closed season" in winter and cleared the way through the frozen sea for 10,000-ton steamers. Hsinkang Harbour has given a fillip to trade and transport for the provinces of the north.

2) The Yellow Sea. The Yellow Sea covers the sea from the mouth of the Yalu River to the estuary of the Yangtse River. In the north it is hemmed in by the Shantung, Liaotung and Korean peninsulas. Here it is dotted with many islands and bordered by a jagged coastline, and offers favourable opportunities for shipping, fishing and defence. The southern Yellow Sea is a famous salt-producing centre. But its drawbacks are: few harbours and numerous sand bars.

3) The East China Sea. The East China Sea lies between the Yangtse estuary and Taiwan. It has many bays and contains more than half the islands of China. Its islands and the harbours along the coastline are not only strategically important but provide facilities for the fishing fleets. The country's largest fishing ground — off the Choushan Archipelago — is located here.

4) The South China Sea. The South China Sea is situated south of the Taiwan Straits. It is the largest

of the four Chinese seas and the warmest. When the temperature of the water surface of the Po Hai drops below zero in February, it is  $25.5^{\circ}$  C off Hainan Island. It is also the deepest. Depths of as much as 4,000 metres have been sounded.

The northern part of the South China Sea is bounded on the east by Taiwan and the Taiwan Straits, on the west by Hainan Island and the Chiungchow Straits (Hainan Straits). The middle of the sea is dotted with groups of islands, called collectively the South China Sea island groups. The South China Sea lies across the trade routes between the Pacific and Indian oceans and is important for shipping between the Asian continent and the islands of South-east Asia and Australia.

**Use of the Sea.** China's many bays, large rivers flowing into the sea, good harbours and numerous islands have provided the requisites for sea transport. Talien, Tangku, Tsingtao, Shanghai, Canton and Chankiang (Tsamkong) are the more important outlets from which many ships each year sail forth with goods, and passengers bound for other ports at home and abroad.

China's seas, for the most part, are less than 200 metres deep, the waters east of the Chinese mainland covering a broad continental shelf. The shallow waters are teeming with fish.

Most of China's coastal regions are affected by warm currents from the Equator. But close to the land a cold current flows southwards. The point where the warm and cold currents mingle is always the meeting post for fish, which have been halted in their movement by the sudden change of temperature. Such "traffic jams" where two ocean streams meet are ideal fishing grounds. Because of the huge expanse of the continental shelf, the

meeting of cold and warm currents plus fresh water added by the mighty rivers, and the consequential plenitude of fish food, China's shore waters, as well as being splendid fishing grounds, are fertile breeding grounds for fish.

It is estimated that China's coastal fishing grounds amount to 436,000 square nautical miles, or 23.74 per cent of the world's total, which gives her first place in the world. Fish abound in great variety—more than a thousand different kinds are found in China's seas.

**Navigation and Shipping.** As early as the Han dynasty (206 B.C.-A.D. 220), the Chinese had already discovered the compass which, in the Tang dynasty (618-907), was widely used in navigation.

The largest Tang ships reached 60 metres in length and were capable of carrying as many as 700 men; they were then the largest sea-going vessels in the world. During the Ming dynasty (1368-1644) the great navigator Cheng Ho seven times sailed on journeys "to the Western Seas," visiting the islands of South-east Asia, and passing through the Indian Ocean to reach the coast of South-west Asia and as far as Madagascar off the eastern coast of Africa. These seven voyages not only enriched Chinese knowledge of geography but were also important events in world annals of navigation and geographical exploration.

Owing to long years of cramping feudal rule, however, the sea occupations were deprived of full development in China. Since liberation harbours have been improved and rebuilt to develop trade, fishing ports established, and salt farms expanded. Lighthouses and weather stations have been increased to facilitate and safeguard navigation.

## CHAPTER THREE

# PHYSICAL FEATURES

### General Characteristics

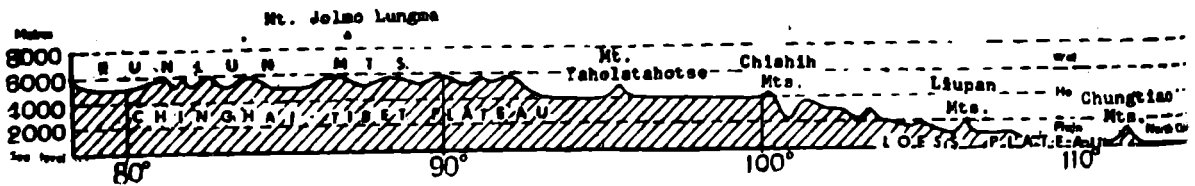
**Land Slopes from West to East.** If you open a relief map of China you will see most of the eastern coastal region in green with patches in light yellow. Moving inland the colours become deeper until in the west, especially the south-west, yellow brown areas prevail, interspersed with white depicting places of perpetual snow. The map tells that the land mass is high in the west and descends gradually towards the east. A cross section of the land taken at Latitude 35°N. will reveal this feature clearly.

As concerns height China may be divided into three sections. If we draw a line from the Greater Khingan Mountains along the Taihang Mountains through the west of Honan and Hupeh to the east of the Yunnan-Kweichow Plateau, the lands to the east of it would form the first section. Here the country consists mostly of plains and hills of less than 400 metres above sea level. The third section is west of a line drawn from the Holan Mountains south-westwards across the Chiunglai Mountains to the south-east of the Hengtuan Range. Dominating this part are mountain areas and plateaus standing more than 2,000

metres above sea level. Between these two imaginary lines is the second section composed of plateaus and basins of between 1,000 and 2,000 metres above sea level.

This gradual west-east incline of the land mass allows inland areas to catch the warm and moist air currents blowing in from the eastern seaboard, and makes most of the country's rivers flow in an easterly direction into the sea, facilitating economic and cultural exchange between the eastern and western parts of the country.

**Physical Features.** All the five physical features of land are to be found in China: plains, hills, basins, plateaus and mountain areas. Located in China are the majestic Mount Jolmo Lungma,<sup>1</sup> the world's highest; the Turfan Depression, 154 metres below sea level; coastal



### Section Across China at Latitude 35° N.

<sup>1</sup> As early as 1717, Mount Jolmo Lungma was marked on the map of China in its original name. In 1852, Andrew Waugh, sent by the British general survey office in India to survey the Himalayas, ascertained Mount Jolmo Lungma to be 29,002 feet above sea level, the highest in the world. When he returned to London five years later, he proposed that the mount be named after Sir George Everest, a former surveyor-general of the Indian general survey office, who had also once surveyed the Himalayas. Since then, despite the repeated protests of the Tibetan people, Mount Everest has become the name frequently used in maps published abroad. Mr. Sven Hedin, a Swedish explorer, pointed out that the summit was first discovered by a surveyor sent by the Chinese government 160 years before the British surveyor made his claim. Moreover, Mr. Hedin added, renaming the mount was absolutely unnecessary as it had already a name.



plains which are only a few dozen metres above sea level; and, in the west, huge plateaus ranging from 1,000 to 5,000 metres high. Its extensive land surface and many different physical characteristics give the country immensely rich and multifarious natural resources and provide excellent possibilities for developing agriculture, forestry, stock-raising and mining.

**Mountain Ranges.** Of the larger mountain ranges there are nine: the Altai, Tien Shan, Kunlun, Himalayas, Hengtuan, Khingan, Yin Shan, Chinling and Nanling. Apart from the Hengtuan Mountain Range, which runs from north to south, the rest lie in a west-east direction. These ranges resemble the fingers of a giant hand stretching across the land of China.

## Land-Forms and Their Distribution

**Plains.** Although the plains of China take up only one-tenth of the total area, they measure altogether one million square kilometres, i.e. more than four times the size of Britain.

There are three main plains in China: the North-east Plain, the North China Plain and the Middle and Lower Yangtse Plain. They are roughly the same size, being about 300,000 square kilometres each. In addition, there are smaller plains, the most notable being the Canton Delta. Most of these plains are alluvial.

The plains are endowed with rich soil and plentiful rainfall. They are situated along the middle and lower reaches of rivers near the coast, which makes irrigation easy. Thousands of years of toil and cultivation by the labouring people have placed them among the world's great centres of agricultural production.

**Hills.** The hilly regions occupy almost the same space as the plains. Practically all of them are located in the eastern part of the country, with three-fourths known as the South-eastern Hills, lying to the south of the eastern section of the Chinling Range. Here the country does not rise more than 400 metres above sea level. Mountains range between 400 and 1,000 metres high, only in exceptional cases beyond the latter figure.

Other hilly regions are to be found mostly in the Liaotung and Shantung peninsulas farther north. The hills here are also in general below 400 metres. Where they are much above that height, they develop into mountain ranges.

Most of China's hills have gentle slopes, criss-crossed by river valleys of varying size and small basins. Along the low and flat parts of the hills farmers have from earliest times grown many varieties of crops on their terraced plots built like steps. Higher up they have planted trees of economic value.

**Basins.** Basins occupy about one-fifth of the total land surface of China. The Szechuan Basin, in the eastern part of the province, is one of the four largest. Lying 500 metres below sea level, it is traversed by many streams, has rich soil, enjoys a humid climate, and is called the "Heavenly Country."

The other three basins are located in the interior of the country: the Tsaidam Basin, which lies between two branches of the Kunlun Mountain Range—the Chilien Mountains and Bayan Kara Mountains—and is part of the Chinghai-Tibet Plateau; the Tarim Basin, between the Kunlun Mountains and the Tien Shan; and the Dzungarian Basin, between the Tien Shan and the Altai Mountains. These three basins are far away from the sea,

have dry weather and large tracts of desert; nevertheless the melting snow from high mountains surrounding these basins has formed a few rivers, of which the peasants have made use to change the area around into fertile land.

**Plateaus.** China's plateaus are large. The most important of them are the Loess Plateau, the Inner Mongolian Plateau, the Yunnan-Kweichow Plateau and the Chinghai-Tibet Plateau.

The Loess Plateau lies between the Great Wall to the north and the Chinling Mountains to the south, and borders on the Taihang Mountains in the east and the Tao Ho, a tributary of the Yellow River (Huang Ho), in Kansu in the west. It contains the entire province of Shansi, most of Shensi, south-east Kansu, and north-west Hopei. Averaging 1,000 metres above sea level, the plateau is covered with a thick layer of loess which in many places is more than 100 metres deep, making it one of the world's well-known loess areas. The plateau top is broad with undulating loess ridge formations, which rise and fall very gently so that all along the slopes large terraced fields have been cultivated. Only in a few places are there high rocky mountains.

North of the plateau the loess gradually diminishes and the soil becomes more and more sandy until the Inner Mongolian Plateau, north of the Great Wall, is reached. Here the land is covered with wide expanses of grass and desert. The Inner Mongolian Plateau is bordered on the east by the Khingan Mountains, on the west by the Chilien Mountains, and contains the Inner Mongolian Autonomous Region and northern Kansu. It is about the same height as the Loess Plateau, rising for the most part to about 1,000 metres, and is broken only

in a few parts by ridges. The southern part is a rich agricultural district watered by the Yellow River and snow from the northern side of the Chilien Mountains. The rest of the plateau is a famous stock-raising area.

The Yunnan-Kweichow Plateau embraces the entire province of Kweichow and eastern Yunnan (east of the Yuan Kiang) and stands mostly between 1,000 and 2,000 metres above sea level, the western part being higher than the eastern. It is composed mainly of limestone, scarred by stupendous ridges and deep valleys where streams have eaten into it. Paddy fields occupy small flat land in some of the mountains, while hill slopes are covered with terraced farmland.

West of the Yunnan-Kweichow Plateau is the Chinghai-Tibet Plateau, which covers Chinghai Province, Tibet, western Szechuan, and western Yunnan. This great plateau is the world's most extensive, being for the most part 4,000 metres above sea level. It has wide and undulating platforms, snow-clad mountain peaks and glaciers which run several dozen kilometres into deep valleys. The plateau's western portion contains many salt lakes; the eastern and southern sections are drained by some big rivers. There are also many lowlands in the river valleys, where cultivation is carried on.

Before liberation, the reactionary rulers regarded this plateau only as a distant and poor area. But recent surveys have located abundant mineral resources, valuable forests, excellent pastures and rich intermontane plains in the vast area lying between the Chilien Mountains and the Himalayas.

As far as land utilization is concerned, the Loess and Yunnan-Kweichow plateaus are devoted mainly to agri-

culture, while the Inner Mongolian and Chinghai-Tibet plateaus are famous for their animal husbandry.

**Mountain Areas.** In the beginning of this chapter we have already noted that there are nine major mountain ranges in China. Apart from the regions where the eastern section of the Chinling and the Nanling ranges are located, all the other ranges are continuous stretches of mountain areas such as the Hengtuan and Tien Shan mountain areas.

Besides towering mountains, the mountain areas are composed of spacious river valleys, small-scale basins and hills, all making the land surface very complex. While they offer little scope for agriculture, China's mountain areas are nevertheless rich in forests and mineral resources.

## CHAPTER FOUR

# MINERAL RESOURCES

No large-scale surveying was done during the Kuomintang regime, but after liberation the People's Government, while training large numbers of people for geological survey work, began an extensive investigation of the country's mineral resources.

The efforts of the prospectors has been greatly facilitated by the local people who frequently write to the government about what they have heard or seen concerning minerals. Already it has been shown that China possesses large oil resources and nearly all minerals and metals necessary for its planned industrialization and its expansion of every phase of the national economy.

Resources thus far disclosed are immense and varied. Geological prospecting done during the First Five-Year Plan (1953-57) showed an increase over the pre-liberation estimates of all mineral deposits. China is fabulously rich in tin, molybdenum, tungsten, mercury, antimony, copper, lead-zinc, aluminium, coal, iron, phosphorus, etc. The country's inexhaustible hidden wealth provides an extremely favourable condition for the development of its socialist industry and the modernization of its agriculture, as well as its effort to surpass Britain in 15 years or less in the output of iron and steel and other major industrial products.

**Coal.** The results of prospecting done during 1953-57 revealed that China has a total of 1,000,000 million tons of coal reserves, as against the 260,000 million tons mapped out in old China.

Coal can be found almost everywhere in the country and is, therefore, handy for local use. This offers an ideal condition for developing local industries and fuel industry for popular consumption. Meanwhile, China's coal deposits are concentrated in a number of areas, mostly in places north of the Huai River, first and foremost Shansi, Shensi, and the Inner Mongolian Autonomous Region. So far, coal mining is most developed in Liaoning, Hopei and Shansi, with the Kailan, Fushun, Fuhsin and Tatung collieries standing out as the biggest centres.

**Iron.** Bourgeois geological surveyors, Chinese and foreign, used to say that China was poor in iron deposits, with only 3,000 million tons and very few big iron fields. Investigations since liberation, however, have given the lie to them: China is rich in iron-ore deposits that are placed at 12,000 million tons or more.

Like coal, China's iron-ore riches are widely distributed; iron mines of varying size have been discovered in almost each and every province and region. Most outstanding among them are those in Anshan, North-east China; Tayeh, Hupeh; Bayin Obo, Inner Mongolia; and Panchihua in Yenpien County, Szechuan. The fact that these deposits lie close to coal and water power resources facilitates the growth of the iron and steel industry.

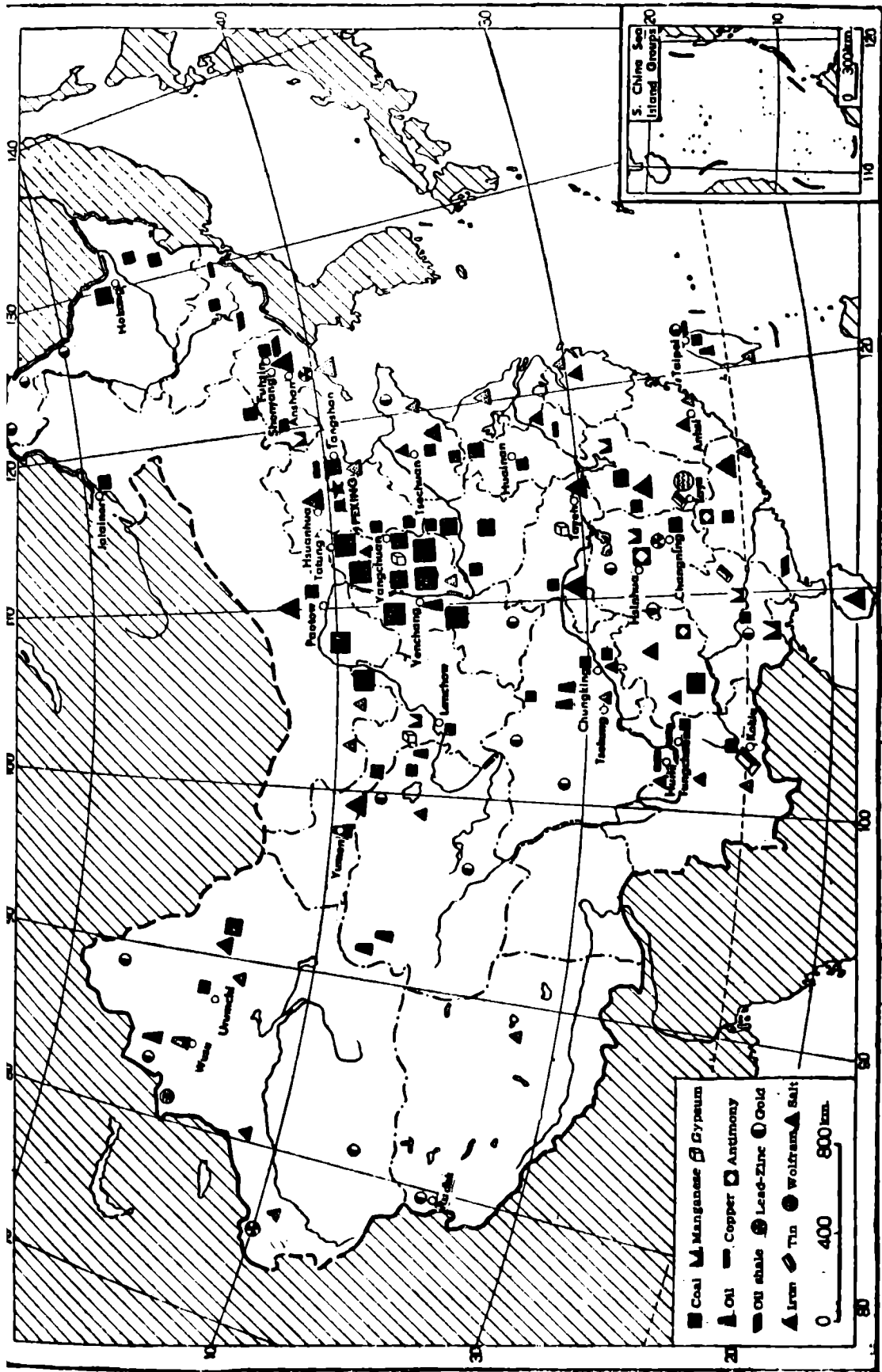
**Oil.** No final figures for oil have been arrived at owing to the continuous discoveries being made of new fields. But it can now be said definitely that China possesses vast oil reserves that put it among the world's major oil

powers. In addition to crude or natural oil, the country has a number of oil-shale deposits.

Available data have confirmed that China's natural oil fields are mostly located in Sinkiang, Kansu, Chinghai (in the Tsaidam Basin), Szechuan and Taiwan. Deposits of oil shale are found mainly in the North-east and southern Kwangtung. The largest oilfields being worked today are at Yumen (in Kansu), Fushun (in Liaoning) and Wusu (in Sinkiang).

**Non-Ferrous Metals.** China's non-ferrous metal mines, mainly of tungsten, manganese, antimony, tin, aluminium, copper, molybdenum and lead-zinc, are mostly located south of the Yangtse River (along both sides of the Nanling Range and on the Yunnan-Kweichow Plateau), in the hilly regions around the Po Hai, and in Sinkiang. Of these, molybdenum and tin reserves put China first in the world, and tungsten second, next to the Soviet Union.





**Chief Mineral Products**

## CHAPTER FIVE

# CLIMATE

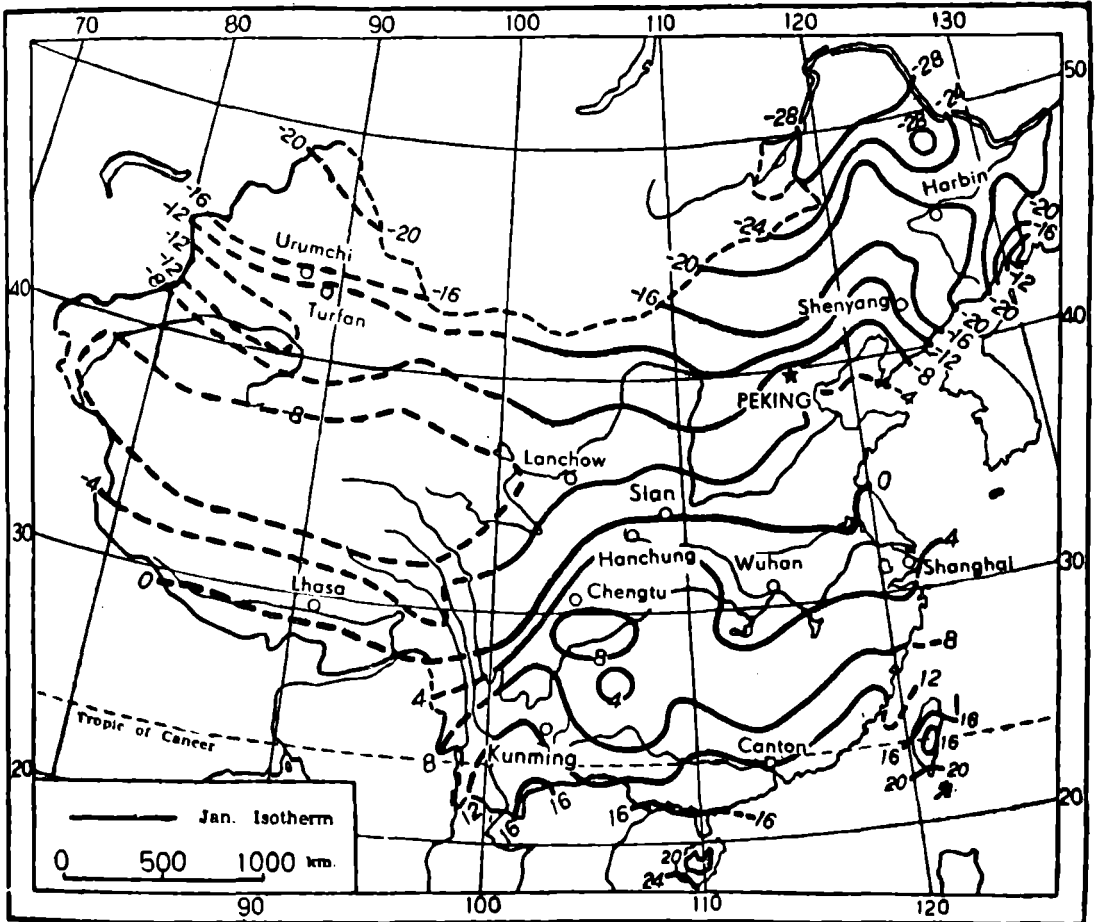
### Variety of Climate

**Great Differences.** In an enormous country like China, there are places which enjoy perpetual spring and others which are cold the year round with everlasting snow. If a traveller makes a journey in winter northwards from Canton, he can leave clad in light garments. When Wuhan on the Yangtse River is reached, he will find that the weather has become cold. At Peking it will be so cold that he will be compelled to put on a heavy overcoat to keep warm and, when the train finally reaches Harbin in the North-east, he will have to put on even warmer clothes, preferably fur, and need a fur cap for his head and ears.

A look at the temperature in different parts of the country for the months of January, the coldest month of the year, and July, the hottest, will give some idea of the great differences prevailing.

In January the average temperature for the Yunnan-Kweichow Plateau and the area south of the Nanling Range, both lying on the same isotherm, is mostly above  $8^{\circ}\text{C}$ , which can hardly be described as cold; for most of the Yangtse River valley it is between  $0^{\circ}\text{C}$  and  $8^{\circ}\text{C}$ , cold but not enough for rivers to freeze. For the Yellow River

basin and the Chinghai-Tibet Plateau it is mostly between  $0^{\circ}$  and  $-8^{\circ}$  C; there are frequent snowfalls and the earth is frozen. In the North-east, North-west and Inner Mongolia the temperature is mostly between  $-8^{\circ}$  and  $-20^{\circ}$  C; here it is extremely cold.

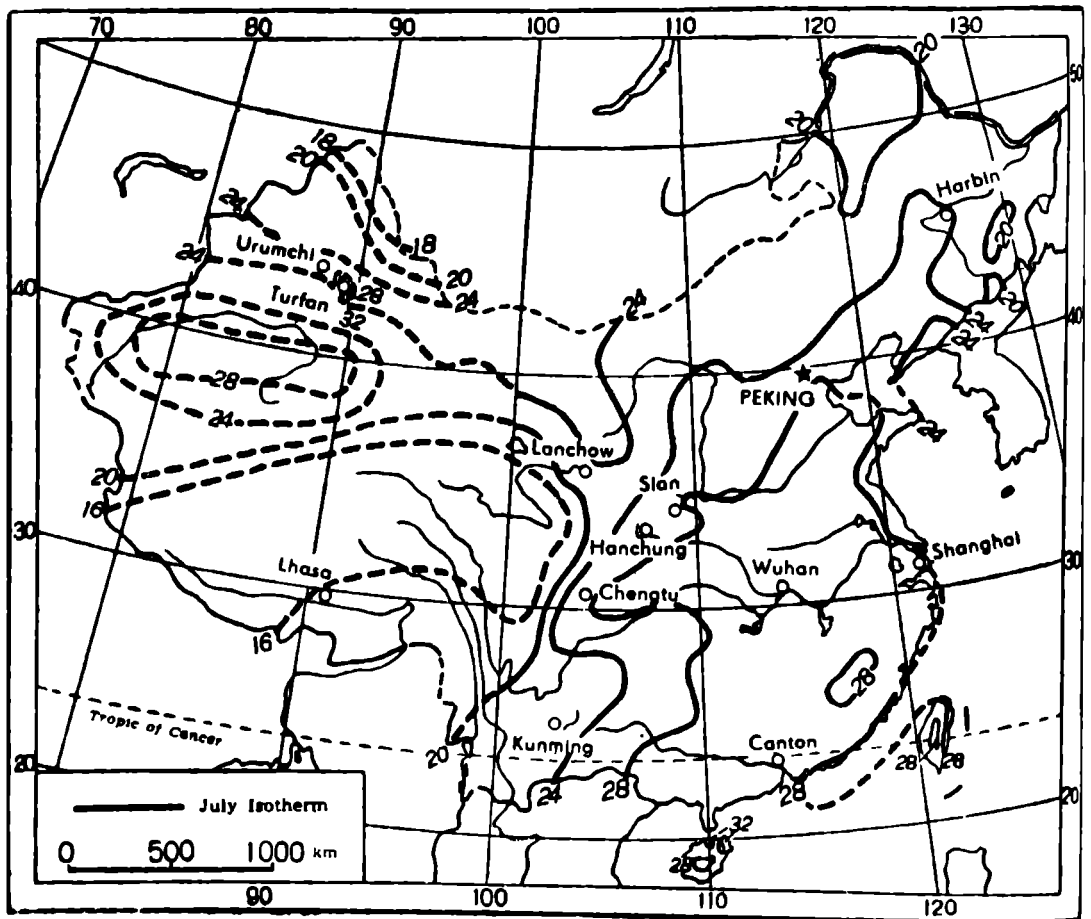


**January Temperature**  
(in Centigrade)

*The broken lines are drawn according to incomplete data.*

While there are great differences in winter temperatures — a gap of more than  $30^{\circ}$  C between Canton and Harbin in January — there is remarkably little disparity in summer. Mean temperature for July shows that with the exception of the Chinghai-Tibet Plateau and some other high mountainous areas in the north, the tempera-

ture for the country is everywhere high, and lies at more than  $20^{\circ}$  C. The difference between north and south is only  $7^{\circ}$  or  $8^{\circ}$  C. For instance, in Canton the average temperature in July is  $28.6^{\circ}$  C and in Harbin it is  $24^{\circ}$  C, a difference of only  $4^{\circ}$  C. But in some inland basins in the North-west, for instance Turfan, it is even hotter than in coastal Canton. The warm summers enjoyed by the whole country are good for farming.



**July Temperature** (in Centigrade)

## TEMPERATURE COMPARISONS

*(In Centigrade)*

	Canton	Wuhan	Peking	Harbin	Turfan
January	13.2	3.9	-4.6	-20.9	-10.6
July	28.6	28.8	26.1	24	32.8

**Duration of Seasons.** The general division of the year into spring, summer, autumn and winter, each of three months' duration, cannot be mechanically applied to every part of the country. Some places have prolonged winters and practically no summers, and others are hot the year round and have no real winters.

In calculating the seasons we take the monthly average temperature as the guide. If it is 22° C and above it is summer; if less than 10° C it is winter. Between these two extremes lie spring and autumn.

Taking the above as guide we can say generally that Kwangtung, Kwangsi, Fukien and Taiwan, all south of the Nanling Range, have no winters but have summers lasting from 5 to 8 months. Most of the Chinghai-Tibet Plateau and northern Heilungkiang Province have long winters and no summers. The rest of the country enjoys the four seasons. But in these parts there is a variation in the duration of the seasons. Further north the winters get longer and the summers shorter; the reverse rules, of course, as we move south.

**Effect on Plant Life.** Periods of growth of plants — i.e. when the average daily temperature is above 6° C — vary from place to place. South of the Nanling Range, the provinces of Kwangtung, Kwangsi, Fukien and Tai-

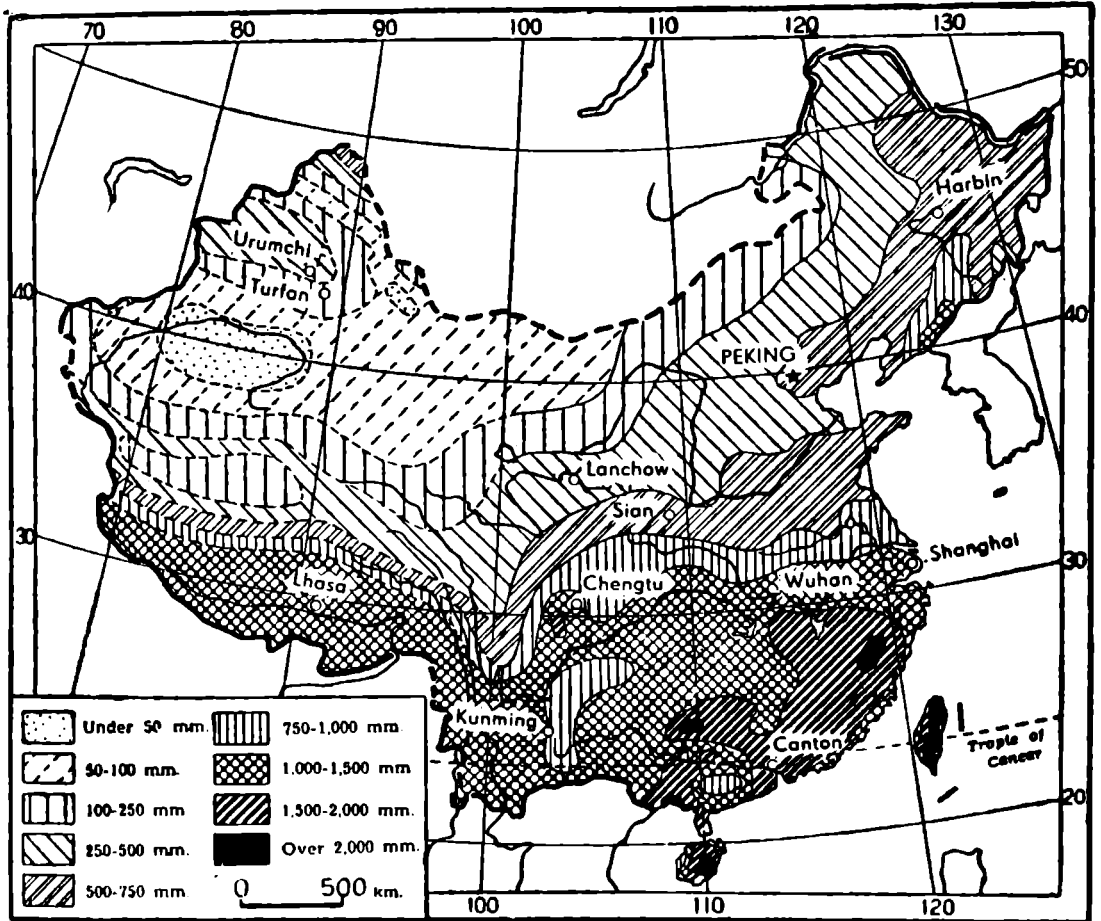
wan, except for higher mountains, are almost free from frost and snow even at times of low temperature. Thus the whole year allows for steady and continuous growth of plants: two or three crops can be gathered in a year. North of the Great Wall, in most places of the Northeast, in Inner Mongolia and Sinkiang, the growing period is less than 200 days and only one harvest per year is possible for the usual grain crop. The area between the Great Wall and the Nanling Range — apart from the Chinghai-Tibet Plateau which has a very short period of growth owing to its high altitude — has a growing period of 200-300 days, making possible two crops a year, or three crops in two years.

**Precipitation.** In the coastal areas there is plenty of rain while in the western part of the country there is so little of it that every drop of rain and every handful of snow is treasured.

Atmospheric moisture comes mostly from the Pacific so that there is less and less rainfall as we go westwards; especially marked is the decrease in the direction from south-east to north-west.

The country can roughly be divided into three zones, so far as annual precipitation is concerned:

- 1) Humid zone. South of the Chinling Range and the Huai River and in the southern part of the Chinghai-Tibet Plateau, the average annual precipitation is mostly 750 mm., with 1,500 mm. for the hilly regions along the south-east coast. These places are well known for rice, tea and sub-tropical fruits and plants. The rainfall is heavy because the region is situated in the south where summer monsoon prevails, and is bounded on the north and west by mountains which intercept the moisture-laden winds, to cause heavy rainfalls.



### Mean Annual Rainfall

2) Arid zone. The north-western and northern parts of the territory north of the Yin Shan and Kunlun Mountains mostly receive an average annual precipitation of less than 250 mm., with some places receiving only a few dozen millimetres. Except where there are irrigated farmlands most of this area is composed of steppe and desert. Shortage of rain here is due first to long distance from the sea and secondly to mountains and plateaus which lie between the inland and the sea, thus obstructing the wet winds blowing in from the south-east. North of the Tien Shan in Sinkiang, however, some places are favoured by moisture-bearing winds

from the Arctic Ocean, and the rainfall is heavier, being as much as 250 mm. a year.

3) Semi-arid zone. The land lying between the two zones mentioned above is semi-arid. Those parts lying close to the sea and the humid zone, for instance the North-east and the southern part of the Lower Yellow River Region, have an average annual precipitation of 500 mm.; those parts near the arid zone, for instance south-eastern Kansu and northern Shensi, have an annual average of about 300 mm.

Not only is the precipitation unevenly distributed throughout the country, but its annual amount and seasonal differences also vary from year to year. Take Peking, for instance. The average annual precipitation for 69 years is 630 mm., but the heaviest year registered 1,084 mm. whereas the minimum was 168 mm. Disparity is greatest in the North-west and the Lower Yellow River Region; it is least in the Pearl River Basin. Violent variation in rainfall is bad for farming. Without proper water-control measures there is danger of floods during seasons of excessive precipitation and, in years of light rainfall, likelihood of drought.

In China, rain comes mostly during summer and autumn, and between May and October it usually accounts for more than 80 per cent of the annual total, concentration being particularly marked in the Lower Yellow River Region and the North-east. As summer is the season when the growth of crops on the whole needs moisture most, the fact that the greater fall occurs in this period is particularly welcome.

Not only is rainfall heaviest in summer and autumn months but in some places heavy rain is frequent, bringing, at times, in one day as much rain as the monthly



average, sometimes more. Thus Shanghai, which has a July average of 144.8 mm., has known a day's rainfall of 534 mm.

## Reasons for Variety of Climates

China enjoys various types of climate that can be found in tropical, sub-tropical, temperate and cold zones.

**Effect of Surface Features.** Apart from the vastness of the country, a complex topography, with continuous mountain ranges and great disparities in the altitudes of high and low lands, has an important effect on the climate.

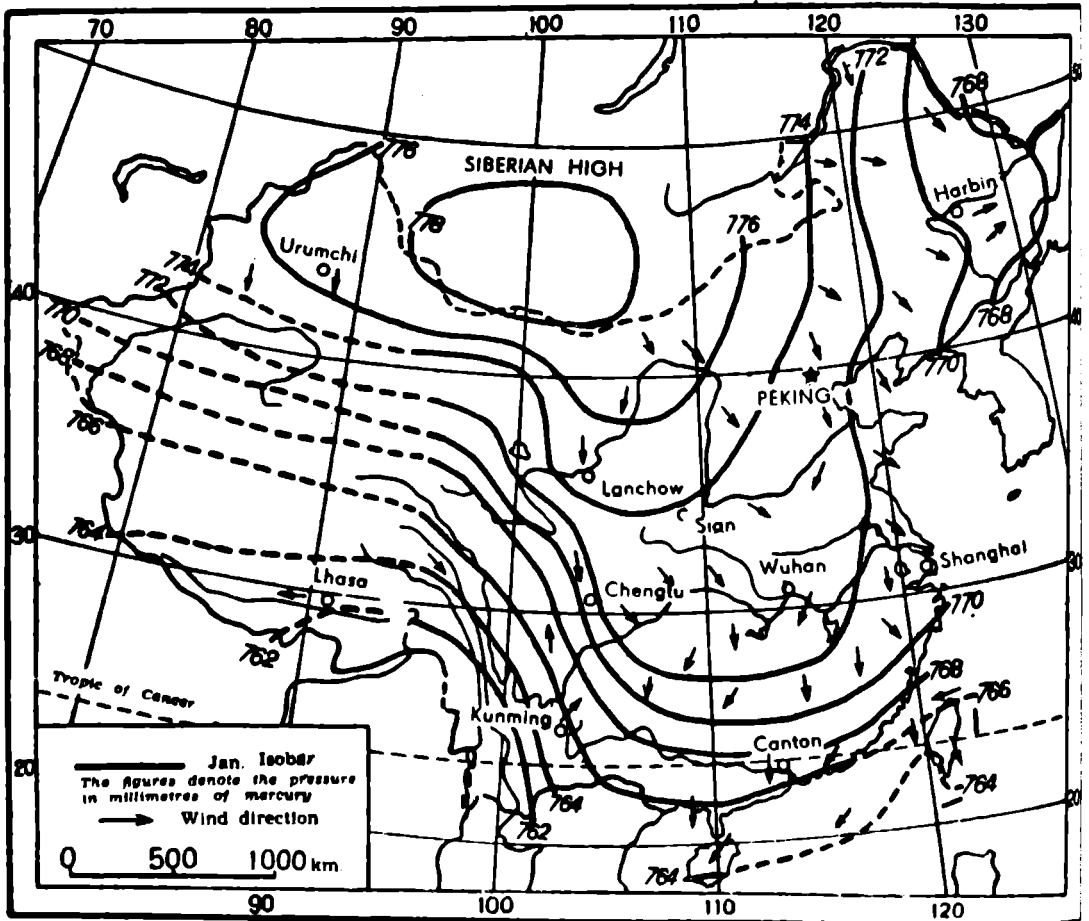
Thus while the Szechuan Basin and the Chinghai-Tibet Plateau lie alongside each other on the same latitude, they have absolutely different climates. The Szechuan Basin has mild winters, hot summers and plenty of rain; whereas on the plateau winter is severely cold and summer is almost unknown, and there is very little rain.

In Sian the winters are cold and windy and the summers hot; precipitation for the year is only about 500 mm. and drought is a frequent occurrence. But in Hanchung, streams very seldom freeze in winter, the annual precipitation is above 840 mm., and there are seldom strong winds. The cause of the differences is the Chinling Range which, on the one hand, prevents the cold winter winds from blowing south, and, on the other, stands in the way of the summer wet winds coming from the south. Thus the Chinling Range serves as an important climatic divide in China.

The Nanling Range, the Himalayas and the Tien Shan also have a big influence on the climate.

**Monsoons.** Monsoons also play a great part in dominating the climate of China.

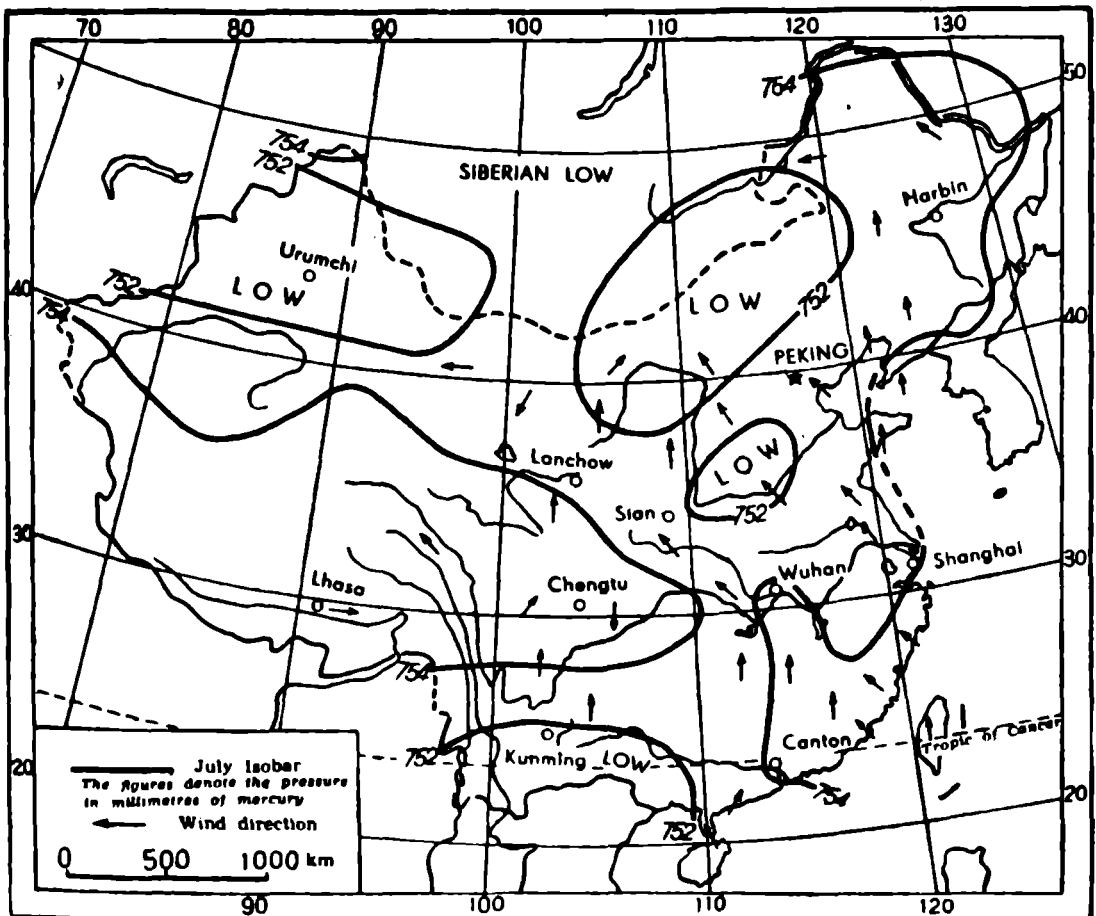
In winter, since Siberia and Mongolia have the lowest temperatures on the Eurasian continent and therefore the highest pressure, they form the world-famous high-pressure centre, known as the Siberian High. During this season the winds blow eastwards and south-eastwards from the continent to the Pacific Ocean where the pressure is low, forming the winter monsoons in China. These currents flow in the lower air layer, seldom going beyond 2,000 metres above sea level, and sweep over the



**Isobars & Winds (January)**

whole country except for the Chinghai-Tibet Plateau and Yunnan, which are hardly affected because of their high altitudes. The winds start from Mongolia in September and gradually die down in next March; they dominate the vast air space of the country for more than half of the year. A feature of the winter monsoon is its ferocity which is due to the immense difference between the Siberian high pressure and the barometric depression of China's coastal area, and also to the west-east incline of the continental land mass.

In summer the temperature inland rises so that Siberia and Mongolia become low-pressure areas. The atmos-



**Isobars & Winds (July)**

phere moves towards the land from the high-pressure zones over the ocean, causing the summer monsoons. The wind force of summer monsoon is relatively weak, firstly because pressure differences are small, and secondly because the elevation increases as the air currents move westwards. Summer air currents are short-lived, blowing for only three months of the year; they have a restricted area of operation, being able only to reach the eastern and south-eastern provinces bounded by the Greater Khingan, Yin Shan and Hengtuan Mountains.

That rainfall decreases as we move from south-east to north-west and is generally concentrated in the summer months, and that there is an immense difference in winter temperatures between the north and the south, are due mostly to the action of monsoons.

**Cold Wave.** Cold air currents are formed in the same way as the winter monsoon. After autumn is over, whenever the difference between barometric pressures over Siberia and the Pacific Ocean becomes especially accentuated, a mighty mass of cold current begins to flow from north Asia across northern China in a south-easterly direction. This causes a cold wave which brings temperatures tumbling down.

**Typhoons.** Typhoons originate in the sea east of the Philippine Islands. Rushing in a north-westerly direction, they turn north-eastwards after reaching China's south-east coast whence they head for Japan, and finally die down in the north Pacific.

Typhoons are mainly summer and autumn occurrences, the typhoon season being the four months from July to October. Most typhoons hit China in the provinces of

Fukien and Kwangtung, passing on their way Taiwan, which is the worst sufferer.

Typhoons approach the mainland with great force but, on reaching land, they begin to lose strength and fail to penetrate deeply beyond the coastal areas.

Typhoons are heavily laden with water vapour which they deposit in the form of cloudbursts soon after reaching China's south-eastern coast; rain gradually becomes lighter further inland, or in the Lower Yellow River Region and in the North-east. It is estimated that the south-eastern coastal provinces receive 20-30 per cent of their annual precipitation from rain caused by typhoons, the area north of the Yangtse River 10 per cent, and the rest of the country something less than 5 per cent.

The power of typhoons and their accompanying rainstorms cause heavy interruption to sea transport, fishing and the salt industry and losses of property and even of the lives of people who live on the seaboard. Meteorological observatories and weather stations to warn of approaching typhoons are being increased by the People's Government, and have helped greatly to reduce the damages caused by them.

## Climate and China's Economic Life

The fact that China enjoys a variety of climate is economically important. A wide zone of temperate agriculture, large areas where tropical and sub-tropical plants can be grown, wide expanses of temperate as well as highland grasslands have endowed China with a rich variety of flora and fauna. While this is also due to

the varied topography, a more direct cause is the variety of climate.

As stated above, the climate in China has its drawbacks: the winter monsoon is powerful and disastrous; continental climate predominates over a huge area; there are great differences in annual rainfall and over-concentration of rain and rainstorms in summer. The result of these climatic disadvantages is periodic floods and drought. In coastal regions typhoon disasters have to be coped with; in north-western China farms are constantly threatened by invading sandstorms; aridity in the Loess Plateau is severe. All these drawbacks involve heavy work if they are to be overcome.

In the past reactionary ruling classes made no serious efforts to improve matters. Indeed, forests were wantonly felled and dykes damaged so that nature's lapses were made even worse and the danger of natural disasters increased. Today, led by the People's Government, which has built and is building enormous dams, diversion and other conservancy schemes, the people have launched a colossal campaign to transform nature: they are improving the courses of the rivers, digging wells and making irrigation canals, planting protective forests and multiplying weather stations. They have achieved marked results in their fight against floods, drought and windstorms.

## CHAPTER SIX

# RIVERS AND LAKES

The fact that the eastern part of China is low-lying and enjoys a heavy rainfall, while the western part is mountainous and gets very little rain, results in the following features with regard to rivers and lakes in the country:

Great rivers, carrying immense volumes of water, are mostly in the eastern half, whereas in the west the rivers are short and carry less water.

The great rivers mostly originate in the mountain-plateau areas in the west and flow eastwards. They are excellent transport arteries.

Almost all the rivers and lakes of eastern China are accessible to ocean shipping. The lakes are fresh-water lakes.

In western China, however, owing to the small volumes of water and the obstruction of mountain ranges, most rivers and lakes have no access to the sea. The lakes for the most part are salt water.

As most rain falls in summer when snow melts on mountains in the west, China's rivers and lakes get the greatest volume of water in summer. In winter water levels are low.

**Exterior and Interior Drainage Basins.** The exterior drainage basins are located in the east and south and

occupy two-thirds of the surface of the country. Most of the rivers in these areas — the Heilung Kiang, Liao Ho, Hai Ho, Yellow, Huai, Yangtse, Pearl and Lantsang (upper Mekong) — empty into the Pacific Ocean. Their basins are the most populous and productive parts of the country.

The only river to empty into the Arctic Ocean is the Irtysh, in the extreme north of Sinkiang. Those which flow into the Indian Ocean are located in the southern part of the Chinghai-Tibet Plateau and western Yunnan, the main ones being the Yalutsangpo (upper Brahmaputra) and the Nu Kiang (upper Salween). The basins of these rivers take up only 10 per cent of the total area drained by rivers flowing into the sea.

The interior drainage basins are located mostly in the North-west and occupy one-third of the territory of the country.

## Rivers

**Rivers North of the Chinling Range and the Huai.** Between the Huai River and the Heilung Kiang are the Yellow, Hai Ho, Liao Ho and other rivers. These streams share the following common features:

They freeze in winter, those in the north remaining frozen for longer periods — the Heilung Kiang is ice-bound five or six months each year. This makes shipping seasonal along these rivers.

Seasonal changes in volume of water carried are immense: water levels are high in summer, and in winter drop drastically, to the river-bed in some cases.

Except for the Heilung Kiang these rivers are great silt-carriers. Owing to past neglect, silt accumulation



along the lower courses caused frequent floods. Since 1949, however, steps have been taken to remedy the situation. A series of water conservancy projects have been built. Most ambitious of these is the plan for the control and exploitation of the resources of the Yellow River.

The source of the Yellow River is at the northern foot of the Bayan Kara Mountains in Chinghai Province. Second largest in China, it is 4,845 kilometres long. It empties into the Po Hai and flows through Kansu, Inner Mongolia, Shensi, Shansi, Honan and Shantung. Its upper and middle basins are an enormous area of plateaus and mountain land, deserts and loess. The steep gradient of the river-bed,<sup>1</sup> the swift flow and the lack of adequate forest cover on either bank are responsible for the river's high silt content.<sup>2</sup> Thousands of canyons and ravines have been created in its middle and upper sections, ruining farms and excellent land. In the lower section, in the flat plains, it slows down, depositing its load of silt and raising the river-bed. The result was the bursting of dykes during the flood season, changing of the river course and inundations. In the past 3,000 years there have been more than 1,500 floods along the lower Yellow River. In that period, the river drastically changed its

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<sup>1</sup> From the source of the river to Kweiteh (in Chinghai) the average drop per kilometre is 1.66 metres; from Kweiteh to Wuchung (in Kansu), 1.45 metres; from Wuchung to Hokou (in Inner Mongolia), 0.17 metre; from Hokou to Yumen (in Shansi), 0.85 metre; and from Yumen to the sea, 0.3 metre.

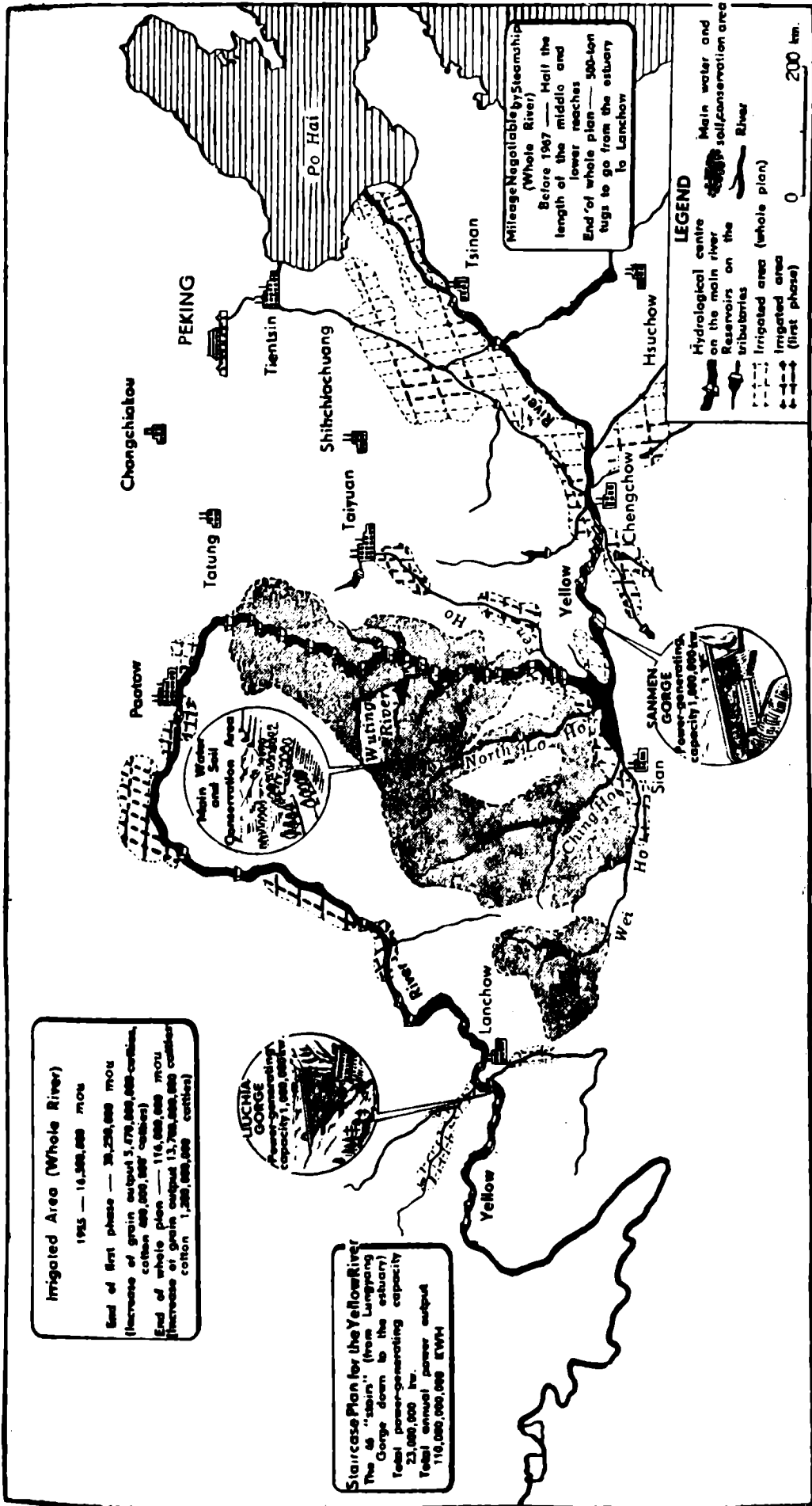
<sup>2</sup> It is estimated that the amount of silt carried by the river past Shanhsien (in Honan) averages 920,000,000 cubic metres a year.

course nine times. The heavy losses in lives and property have earned the river the name of "China's Sorrow."

While natural conditions have played their part in giving the river a bad name, the main blame should fall on the ruling class which for centuries ignored the plight of the people; not only was water conservancy neglected but there was wanton destruction of forests and grasslands.

One of the first jobs undertaken by the new government of China was to strengthen the dykes along the lower Yellow River and to organize thousands of flood-fighting teams. Thanks to these efforts, no flooding has occurred since liberation. However, these steps were recognized by the government as being far from enough. The river must be tamed and turned to account. In July 1955, the National People's Congress approved of an over-all plan for permanently controlling the Yellow River, including short-term and long-term measures for control and utilization.

The long-term plan calls for the building of 46 dams on the river itself, 24 reservoirs along the main tributaries and large-scale soil conservation on the middle and upper sections. The completion of this scheme will entirely free the Yellow River from flooding; it will extend the irrigated area more than seven times, and boost agricultural production by more than 100 per cent. The river will be navigable along its middle and lower reaches, allowing 500-ton tugs to sail right up to Lanchow, Kansu Province. The average annual amount of hydro-electricity produced by the dams on the main river will reach 110,000 million kilowatt hours and will be adequate for the needs of factories, farms and transport in the Yellow River basin.



The Multi-purpose Plan for Permanently Controlling the Yellow River and Exploiting Its Water Resources

Several decades, however, will be needed to fulfil the plan. In order to solve pressing problems, it has been decided to finish a first-stage scheme before 1967 which includes the huge projects at the Sanmen and Liuchia gorges for flood prevention, electricity and irrigation; more than 10 medium- and small-scale reservoirs for flood prevention and irrigation; and large-scale soil conservation. This plan will lay good foundations for permanently taming the river; it will end flooding in the lower section and free it from sedimentation. Irrigated areas will be doubled; half the total length of the middle and lower sections will be navigable; Sanmen Gorge and Liuchia Gorge power stations, each with a capacity of one million kilowatts, will supply the needs of industries in the adjacent provinces and regions; silt will be reduced by about half as a result of soil conservation, and agricultural production doubled.

Control and development of the Yellow River is one of China's great plans for the conquest of nature.

**Rivers South of the Chinling Range and the Huai.** Two great rivers south of the Chinling Range and the Huai are the Yangtse and Pearl rivers.

The Yangtse is China's greatest river, with a total length of 5,500 kilometres. The Yangtse originates in the southern slopes of the Koko Hsili Mountains in western Chinghai Province, flows south through the Chamdo Area, Szechuan, Yunnan, and then abruptly turns eastwards. Its section above Ipin in Szechuan is called Chinsha River (made famous when the Red Army crossed it in the course of their heroic and difficult Long March). Here the Yangtse twists and turns amidst mountains and gorges and rushes down an average steep gradient of more than 1.5 metres per kilometre. The

rapid flow, though unfavourable for navigation, provides excellent facilities for electric power.

After Ipin the gradient is gentle; in the section from Ipin to Ichang in Hupeh it averages only 25 centimetres per kilometre. This part of the river cuts through numerous gorges, the most famous of them being the Three Gorges (also known as the Yangtse Gorges) lying on the Szechuan-Hupeh border. Here the rushing waters are hemmed in by steep rock faces and provide a rich power potential to be tapped. From Ichang the river enters the plain, passing through Hupeh, Hunan, Kiangsi, Anhwei and Kiangsu before emptying into the East China Sea. This section of the river is almost flat, dropping only 4 centimetres per kilometre. The gentle flow of the river and the many lakes large and small which regulate the volume, provide excellent conditions for navigation. Only a part in the middle section in Hupeh and Hunan, which has many bends and is shallow, spoils the picture.

Steamships negotiate the Yangtse as far upstream as Ipin in Szechuan. The larger tributaries are accessible to shipping along their lower reaches, for instance, the Chialing River, Hsiang Kiang, Han Shui and Kan Kiang.

The Yangtse is favoured with many lakes on the middle and lower courses, which play a regulating role. In its basin are rich agricultural areas, flourishing industry and commerce, and a population of more than one-third of the nation's total, and a host of cities big and small along its banks.

The second greatest river south of the Chinling Mountains and the Huai River is the Pearl River, which flows southwards into the South China Sea. The Pearl River is navigable up to Nanning in Kwangsi and steam vessels

ply in the lower reaches of its main tributaries — Tung Kiang, Pei Kiang and Kwei Kiang. Like the Yangtse basin, the Pearl River basin has a warm and wet climate and even, seasonal rainfall.

Both the Yangtse and the Pearl carry little silt because of the rich vegetation along their banks. Ice-free and having no remarkable seasonal changes in water levels, they make navigation uninterrupted all the year round.

The south-eastern seaboard between the Yangtse and Pearl rivers has many shorter streams, including the Chientang River and the Ou Kiang in Chekiang, the Min Kiang in Fukien, and the Han Kiang in Kwangtung. They flow directly into the sea, drain smaller areas and have funnel-shaped estuaries with marked differences in the tides. Although there are limitations on inland shipping, these rivers have good water-power resources which can be exploited.

**Rivers in the Hengtuan Mountain Area.** The larger rivers in the Hengtuan Mountain Area are the Lantsang, the Nu Kiang and others. They originate in the Chinghai-Tibet Plateau, lie close to one another in the upper reaches and, flowing zigzaggedly southwards, gradually separate to reach the Pacific and the Indian Ocean.

Ice-free, they are swift flowing, being caught between great mountains, and provide great potential water resources.

**Inland Rivers.** Most of the rivers with no outlet to the sea are located in Sinkiang, northern Kansu and north-western Chinghai and for the most part are concentrated along the piedmont belts. These streams are all fed by melting snow on the mountains. Thus water volume, length and seasonal changes in water level depend on how much snow there is on the summits, times

of thaw, and distance from mountains. The great crowns of snow on the Kunlun and the Tien Shan have formed between the two mountain chains the Tarim River, the longest and largest of China's inland rivers. Rivers of this type support agriculture as they carry much-needed water from melting snow in summer just when the shortage of water is most felt.

**Canals.** Apart from natural waterways, China possesses many man-made canals, of which the longest is the Grand Canal. We have already noticed that rivers flow from west to east and there are only a few with a north-south orientation. It was to remedy this defect that a canal was dug as far back as 500 B.C. to connect the Huai with the Yangtse.

At the end of the 13th century the rulers of the Yuan dynasty (1279-1368), seeking to simplify the transport of grain (the basis of taxation) from the south-east to Peking, conscripted peasants to lengthen the canal to link Peking and Hangchow. The Grand Canal which resulted from these efforts measured 1,782 kilometres and to this day remains the world's longest. It runs across four provinces — Hopei, Shantung, Kiangsu and Chekiang. It brought shipping on the Hai, Yellow, Huai, Yangtse and Chientang into a single transport system. However, with the development of sea transport and the building of the Tientsin-Pukow Railway the canal lost much of its usefulness. Today, except for the sections in Shantung and northern Kiangsu, which have been blocked and become useless to water commerce, it is still navigable.

## Lakes

**Lakes in the Exterior Drainage Basins.** The lakes in areas drained by rivers with ocean outlets are mainly distributed along the middle and lower reaches. A host of lakes are scattered along the Yangtse from Ichang to Shanghai. Best-known are the Tungting, Poyang and Tai Hu lakes. Poyang Lake, the largest lake in China, covers an area of some 5,000 square kilometres in high flood season. They are useful for developing transport, irrigation and aquatic production, and for regulating the flow of the rivers that pass through them. However, centuries of neglect in the past caused increasing deposits of silt, and big landlords' rice fields dyked off by forced labour encroached on their areas and impaired their effectiveness as regulators. In case of heavy rainfall, floods were easily caused. Plans are now being implemented to improve the situation.

There are also large fresh-water lakes in the North-east and on the Yunnan-Kweichow Plateau. Chingpo and Sungari lakes in the Sungari River valley are endowed with ample water resources and are important sources of power for the North-east. The many lakes on the Yunnan-Kweichow Plateau are long and narrow with a north-south orientation. The largest of them is the lake Tien Chih.

**Lakes in the Interior Drainage Basins.** The plateau region of Tibet and north-west Chinghai is studded with lakes, this being especially true of central and northern Tibet. The larger lakes are the Koko Nor in Chinghai and the Nam Tso (Tengri Nor) in Tibet. The former, the largest salt lake in China, measures 4,000 square kilometres.



The desert regions stretching from Inner Mongolia to Sinkiang have less lakes. One of the largest is the Lop Nor.

Though the lakes in the interior drainage basins are of little value for transport and water power, they are important suppliers of salt and natron; some are rich in borax.

## Economic Value of China's Rivers and Lakes

China is fortunate in having many navigable rivers and lakes: the length of usable channels adds up to 100,000 kilometres, of which more than 30,000 kilometres are open to steamers. After liberation the People's Government began to clear channels long neglected by former reactionary governments, to build ships and to organize junk transport so that the lakes and rivers would be able to contribute fully to the nation's transport.

It is estimated that China's rivers and lakes have a power potential of more than 540 million kilowatts; of this it is thought that 300 million kilowatts can be tapped.

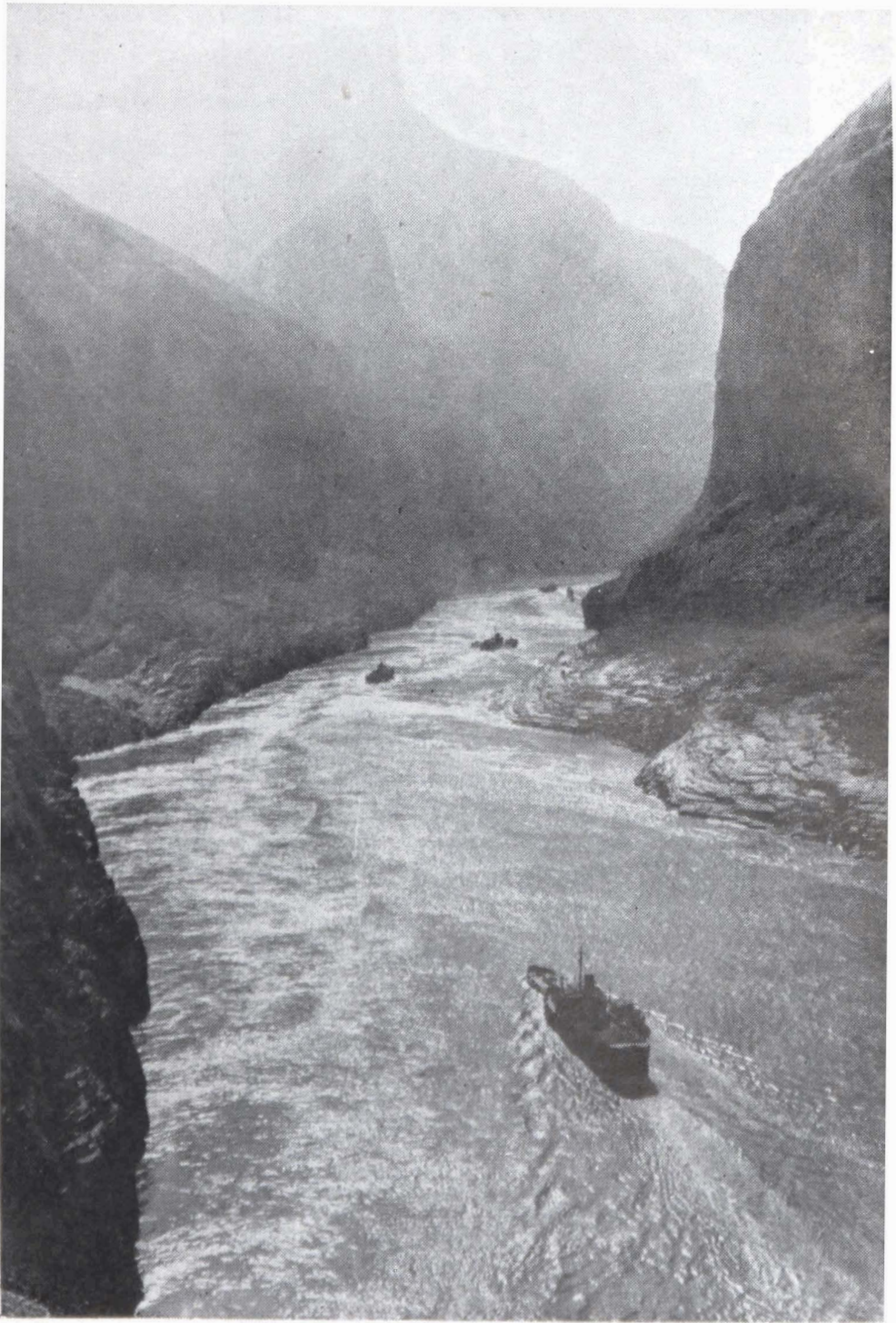
Irrigation of farms, which the Chinese began practising more than 2,000 years ago, depends for its water supply mainly on rivers and lakes. The North-west with its sparse rainfall has vast areas needing irrigation; so do the lands of the South-east, which, despite plentiful rains, require more water for better harvests. And the many lakes and rivers can meet these demands.

Rivers and lakes are also breeding grounds for fish. It is estimated that about one-third of the total 20 million hectares of space which they take up is suitable for

fresh-water fish culture. If each hectare produces 112.5 kilograms of fish per year, the total catch will amount to 750,000 tons. Other products available are salt and natron which offer a favourable condition for developing chemical industries in these areas.



**The Himalayas**



**Chutang Gorge, one of the famous Yangtse Gorges**



**Coconut palms on Hainan Island**



**Terraced fields**

## CHAPTER SEVEN

# SOILS AND VEGETATION

### Soil

In a big country like China where there are variations in physical features, geological formations and climatic conditions, in addition to different farming methods and various extents of land utilization over thousands of years, it is not surprising that many types of soil are to be found. If, however, we take calcium content as the test, Chinese soils may be classified into two main types.

South of the Chinling Mountains and the Huai River, where temperatures are high and rain plentiful, calcareous substance and salt are leached and carried away, leaving the soil deficient in calcium. Such soils are called pedalfer. The exceptions are rocky areas which have a rich lime content.

In the north the weather is cold for long periods, rainfall little and evaporation great, so that there is less leaching. Soils here are known as calcium soils marked by lime lying not very far from the surface of the earth.

Marked differences are to be noticed between these two types of soil. Calcium soils are richer and thicker than pedalfer. The colour of pedalfer is of various shades of red while that of the calcium soil is generally of deep or light chestnut.

## Soil and Vegetation Regions

China may be divided into seven main regions of different soils and vegetation. Of course no clear boundary lines actually exist since one region shades off into another. Nevertheless distinctly different soils and vegetation do mark certain areas and justify our classification.

**The Region of Tropical Vegetation.** The southern parts of Kwangtung, Kwangsi, Fukien and Yunnan, all lying south of the Nanling Range, as well as Taiwan, distinguish themselves from the rest of the country by the year-round greenness of their scenery and rich vegetal cover. They possess broad-leaf trees. A second feature of the region is the red colour of the soil; hilltops are strikingly red in colour.

The region being wet and hot, plants grow in profusion. Representative tropical plants include tall bracken plants of the hilly areas, mangrove forests along the coast, coconut on Hainan Island, and lichee, silk cotton, carambola, papaya, pineapple, etc. Where natural vegetation has not been destroyed, there are dense woods in which tree trunks and branches are covered with creepers and lichens, typical of tropical rain forests.

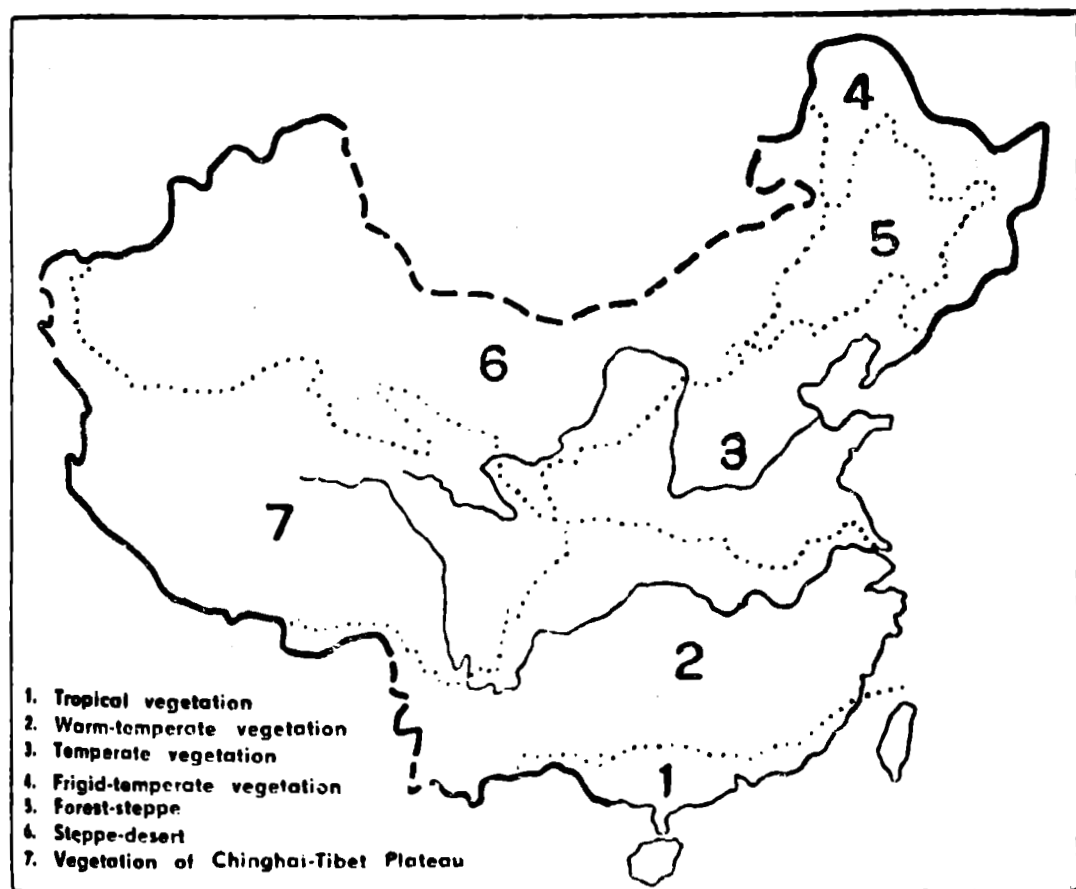
Tropical vegetation is of special economic significance. Plants are cultivated here that can be grown nowhere else, for instance the valuable red sandalwood, the medicinal garu-wood and also cinnamon and star aniseed. Tropical and sub-tropical plants not native to China, such as rubber, coffee, cinchona and teak, flourish when transplanted here.<sup>1</sup>

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<sup>1</sup>Rubber trees were planted in Hainan more than 40 years ago. They can also grow in Taiwan and southern Yunnan. In 1919 coffee was first planted in Hainan the present area being



**The Region of Warm-Temperate Vegetation.** The region comprises the areas north of the Nanling Mountains, south of the Chinling, west of the sea and east of the Szechuan Basin and the Yunnan-Kweichow Plateau. Soils for the most part are red and yellow but become yellowish-brown in areas north of the Yangtse River and near the Huai River and the Chinling Range. It is an intermediate area tending to change to the soil of the north.



### Soils and Vegetation

5,000 mou. Experimental planting of the cinchona tree, from the bark of which quinine is obtained, was done in recent years in Hainan, Taiwan and southern Yunnan. The teak tree provides the best timber in the world for certain purposes, especially for shipbuilding. It grows in southern Yunnan.

Very little of natural forest cover is left; in the plains and hills large tracts of forestland have disappeared; instead bamboo, mulberry, tung and tea oil trees are widely grown. Up in the mountains vestiges of forest remain, the main plants being horse-tail pine and cedar, both woods popular for building.

Outstanding among the trees of economic value grown in this region are tea, tung, tea oil and tallow. Tea and tung oil production in this region are China's highest. The tea oil tree is a kind of small evergreen. It is a product special to China. The oil is edible and may be used as a substitute for olive oil. The tallow tree is a deciduous plant which grows to a height of six metres. Its seeds are crushed for oil which is used in the manufacturing of soap and candles.

**The Region of Temperate Vegetation.** This area covers the south-eastern part of the Loess Plateau, the North China Plain, the hills surrounding the Po Hai and the southern part of the North-east. The earth is frozen in winter, and natural vegetation is thus mainly of temperate deciduous plants; in some parts conifers abound.

Moderate rainfall causes less leaching than that which occurs south of the Yangtse. The soil contains more calcium and is, generally speaking, more fertile. Because of mixed natural conditions and human activities over a long period, there is a greater variety of soils. The soil in the hills around the Po Hai (in Shantung and Liaoning) and areas around the Yen Shan, Taihang and Funiu Mountains, is mainly brown forest soil which is suitable for fruit trees, such as the apple which grows well in the Liaotung and Shantung peninsulas.

In the North China Plain, the Liao Ho Plain and the valleys in the south-eastern part of the Loess Plateau,

dark brown soil prevails. Fine and even, with a rich lime content and fertile, this soil was formed after centuries of cultivation of the alluvial soil of the Yellow River, the Hai Ho and the Liao Ho. It is a principal farming area of China.

From ancient times man has farmed on this area of rich soil until today most of the region is covered with mile after mile of farmland supplying a great population with its food crops. Forests are few and far between, mostly in mountain districts. Elms, poplars, pagoda-trees, willows and Mongolian oaks and temperate fruit plants are to be found in abundance. These plants have adapted themselves to their surroundings and are distinguished by their ability to stand cold, drought and alkaline conditions. In many parts, peaches, pears, apricots, plums, persimmons, dates, walnuts and chestnuts are grown.

**The Region of Frigid-Temperate Vegetation.** Because of high latitudes and low temperature, the plants most commonly met with around the Greater and Lesser Khingan ranges and the Changpai Mountains in North-east China are frigid and temperate conifers and mixed forests composed largely of conifers. Because of natural rejuvenation and artificial destruction of forests, there grow in many places grasses. Hence the soil here is predominantly turfy podzolic soil. Along the Changpai Mountains most of the soil, however, is brown forest soil which is less fertile and not quite suitable for farming, though favourable to forests. Hence such soil is utilized for afforestation projects.

There is a wide variety of trees in this region, numbering no less than several hundreds altogether; more than twenty kinds yield excellent timber. Among the conifer-

fers, larches are predominant; red pine and fish-scale pine come next. The red pine is much sought after. Apart from use as general building material the wood is also good for making sleepers and for bridge-building and shipbuilding. Of the broad-leaf trees there are aspens, white and black birches, elms and Amur cork trees. The aspen is used for making match sticks. The birch is pulped for paper. The Amur cork tree is worthy of special mention. It is a plant which thrives only in Asia and is valuable because of its hardiness and the fine texture of its grain.

**The Forest-Steppe Region.** The central and northern part of the North-east Plain is joined by the forest region of the Lesser Khingan and Changpai mountains to the east and the steppe desert region to the west. Its vegetation as a result tends to shade off from forest to steppe. The soil here is rich in humus and is very fertile and famous as the black earth region of the country.

**The Steppe-Desert Region.** Because of scarce precipitation, the scene north-west of the forest-steppe region gradually changes to one of vast spaces covered with little or no vegetation. This is the region of steppes and deserts. Eastern and south-eastern Inner Mongolian Autonomous Region with greater rainfall belongs to the former type while the arid area west of the Holan Mountains is desert.

The dryness of the climate and scantiness of vegetation make the soil of the region to contain little humus, but it is rich in lime. Here chestnut and grey soils prevail.

Plant life is confined to short grasses and drought-resistant and thorny shrubs. The characteristic of the grass here is that it is short-lived, growing rapidly after a rainfall and shrivelling up just as quickly. Camel thorn

is often met with. Of the shrubs one of the most common is the tamarisk which grows to a height of three or four metres. It has long, fine branches carrying luxuriant growths of tiny, thick leaves which reduce vaporization. Of economic value are liquorice root, Ephedra and other plants. The local salt-tree is a woody plant and grows to a height of three or four metres. Its trunk is gnarled and twisted and large and has many branches but no leaves. It has a high salt content. It is called the jewel of the desert as it burns well, and its young branches can be fed to camels.

**Vegetation Region of the Chinghai-Tibet Plateau.** Because of its great height, bitterly cold strong winds, the Chinghai-Tibet Plateau is unsuitable for growth of tall trees. More common are grasses and shrubs. Under such natural conditions mountain meadow soil is popular.

The plateau and mountain areas four to five thousand metres above sea level in northern Tibet are desert and have little plant life. In the south-eastern part of the plateau the Hengtuan Range, with towering mountains and deep valleys, is marked by a vertical zonality of soils and vegetation. In the valley floors, higher temperature and ample rainfall support dense forests. Above these valleys it is colder and grassland appears. As for soils, in the valley bottom, brown forest soil prevails, while in the middle and upper elevations, mountain meadow soil and alpine desert soil are the rule.

## Soil Conservancy and Afforestation

Under previous regimes the extension of cultivated areas without regard to the need for preservation of forests and grasslands exposed the land and destroyed its

capacity for retaining water, resulting in serious erosion. Run-offs are widespread south of the Yangtse while north of the Great Wall the wind is generally responsible. In the middle and lower reaches of the Yellow River the culminative effects of both wind and rain have left their marks on the land surface. The myriad gullies which scar the face of the Loess Plateau are the handiwork of thousands of years of rain.

After liberation the People's Government began the work of planting protective forest belts, cordoning off the hills for the trees to grow undisturbed, planting fodder grasses and constructing terrace fields. But great expanses of wasteland and many denuded mountains still remain and erosion continues. A grand effort is embodied in a plan which envisages the building of a green cover wherever possible within 12 years (1956-1967).

## CHAPTER EIGHT

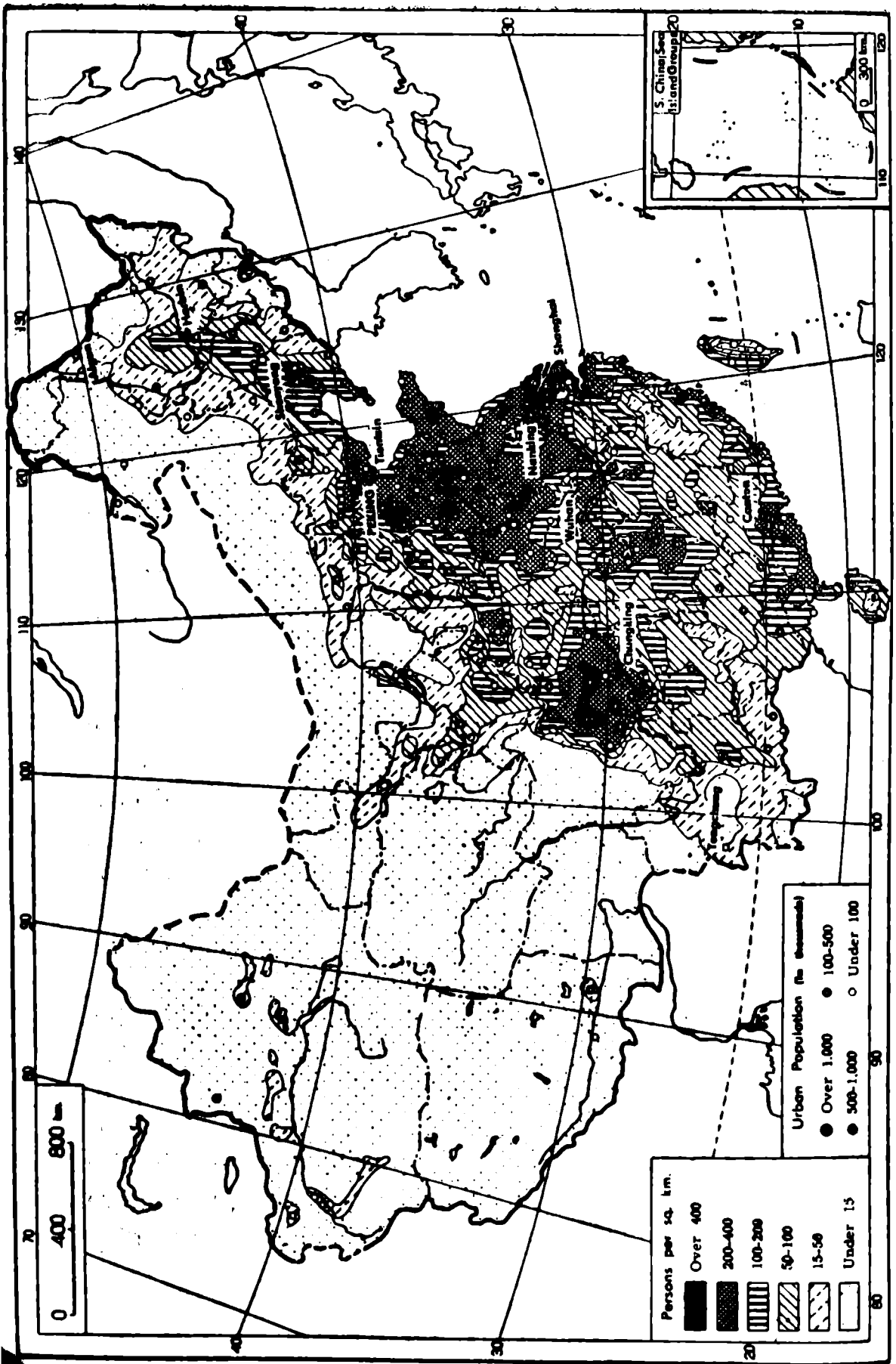
# POPULATION AND PEOPLE

### Density and Distribution of Population

According to the census taken on June 30, 1953, China has a population of 601,938,035, more than one-fifth of the world's total of 2,700 million.

The population is very unevenly distributed. If we draw a line from Aigun in Heilungkiang Province to Tengchung in Yunnan, we will find that east of the line the population density is high — most parts having more than 100 persons to the square kilometre; west of the line there are less than 15 persons to the square kilometre in most places. China's large cities are concentrated east of the line; ten — Shanghai, Peking, Tientsin, Shenyang, Wuhan, Canton, Chungking, Nanking, Harbin, Lushun-Talien (Port Arthur and Dairen) — have each a population of more than a million. The largest city west of the line is Lanchow with 600,000 inhabitants.

While natural conditions were partly responsible for the wide disparity in population density, the decisive factor was the social systems which formerly prevailed. While feudal rule squeezed as much as it could out of the impoverished country and imperialism joined in the plunder, there was no way of improving the productive forces; society could not be organized to defeat the aridity



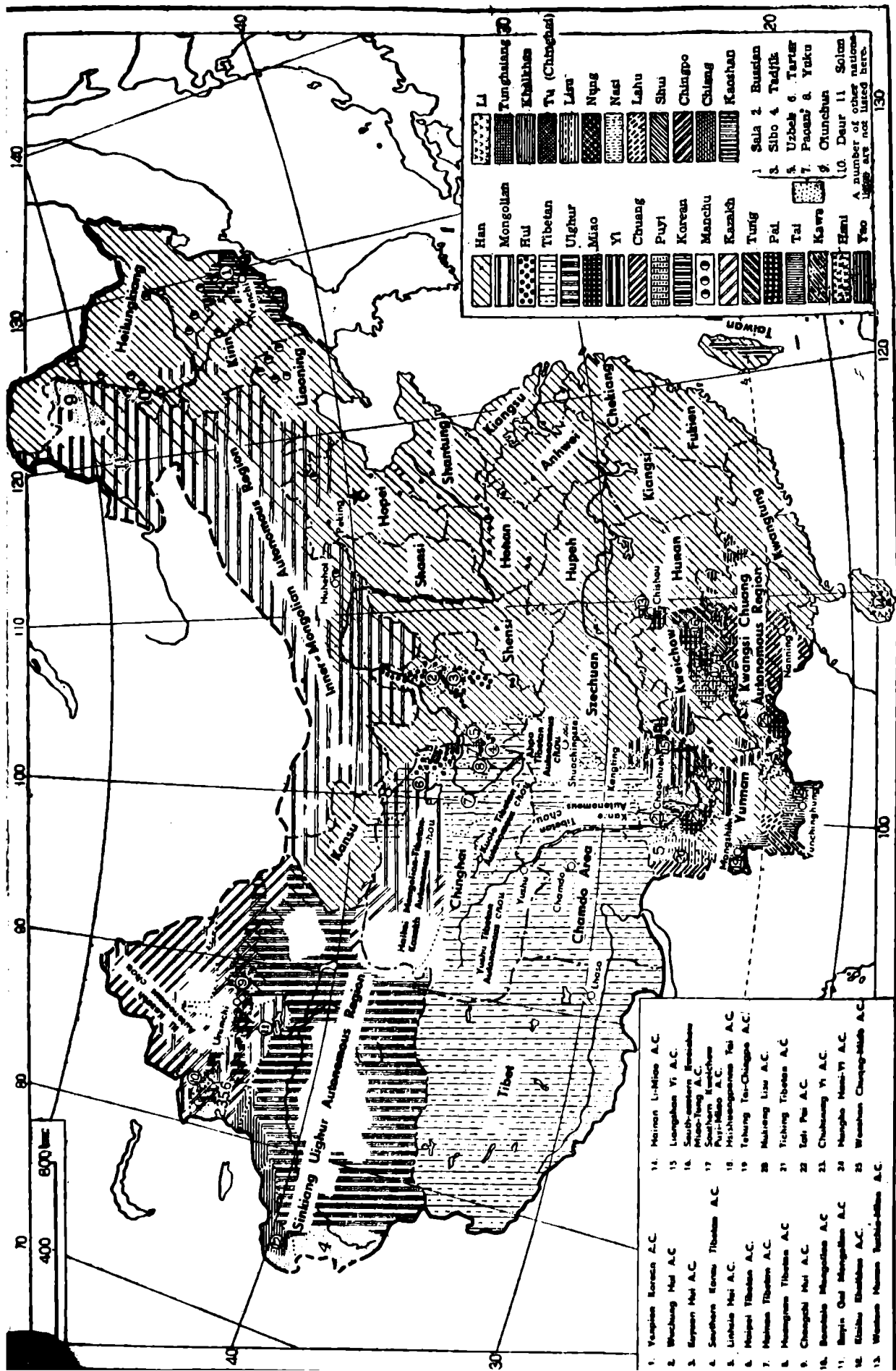
Density of Population and Distribution of Cities



of the North-west, to penetrate the forests, dig into the minerals hidden in the earth, open up farmlands, expand cattle raising. Man, therefore, clung to the south-eastern parts which enjoy nature's favours. Today, in step with the great economic upsurge, old cities of the North-west have grown; in between mountain ranges, on the grasslands, in the Gobi desert, new cities have risen to serve the builders of New China. Group after group of workers, farmers and technicians have been moving to the North-west, and it is foreseen that the abnormal distribution of population will ultimately be moderated.

## Nationalities and Their Distribution

China is a land of many nationalities. The main group is Han and the rest are national minorities, scores of them. The 1953 census showed the following figures of populations: Mongolians, 1,462,956; Huis 3,559,350; Tibetans 2,775,622; Uighurs 3,640,125; Miaos 2,511,339; Yis 3,254,269; Chuangs 6,611,455; Koreans 1,120,405; Puyis 1,247,883; Manchus 2,418,931; other nationalities, 6,718,025. The estimate is that the minority groups number 35,300,000, *i.e.* about 6 per cent of the total population on China's mainland. Most of the minorities are to be found in the border or distant provinces. For instance, the Huis live mainly in Kansu and Chinghai, the Chuangs in the Kwangsi Chuang Autonomous Region, the Tibetans in Tibet, Chinghai and western Szechuan, the Uighurs in Sinkiang, the Miaos, Puyis and Yis in Kweichow, Yunnan and western Szechuan, the Mongolians in Inner Mongolia and the Koreans in the North-east. A number of the minorities, largely because of oppression by the old reactionary regimes, were forced



Han	Li	1	Sala	2	Rusian	
Mongolian	Tungshang	30	3	Sibo	4	Tadzik
Hui	Khalhas		5	Uzbek	6	Tartar
Tibetan	Tu (Chinghai)		7	Paoan	8	Yaku
Uighur	Lira		9	Chunchun		
Miao	Ning		10	Deur	11	Solton
Yi	Nasi		A number of other nationalities are not listed here.			
Chuank	Lahu					
Puyi	Shui					
Korean	Chingpo					
Manchu	Chiang					
Kasakh	Kaoshan					
Tung						
Pal						
Tai						
Kara						
Hani						
Yao						

1. Yenian Korean A.C.
2. Weichang Hui A.C.
3. Sanyan Hui A.C.
4. Sanyuan Sanyuan Tibetan A.C.
5. Liebiao Hui A.C.
6. Huzigui Tibetan A.C.
7. Haimen Tibetan A.C.
8. Huangnan Tibetan A.C.
9. Chengzhi Hui A.C.
10. Banzhale Mongolian A.C.
11. Baqin Qul Mongolian A.C.
12. Eshiku Bashkir A.C.
13. Wuzhen Hui A.C.
14. Haimen Li-Miao A.C.
15. Longshan Yi A.C.
16. South-eastern Kirghiz A.C.
17. Pisho-Tung A.C.
18. Pishi-Miao A.C.
19. Pishi-Miao-Tung A.C.
20. Tseling Tai-Chingpo A.C.
21. Muzang Lira A.C.
22. Tiching Tibetan A.C.
23. Tai Hui A.C.
24. Chubing Yi A.C.
25. Nanghe Hui-Tu A.C.
26. Wuzhen Chengzhi-Miao A.C.

Distribution of Nationalities

to the more difficult highlands. The Lis of Hainan are mainly to be found in the Wuchih Mountains, the Kaoshans of Taiwan in the central mountains of the island, the Miaos, Yis, Puyis and Tibetans of Yunnan, Kweichow and Szechuan also in their mountainous parts.

## Changes After Liberation

Formerly under oppression by the feudal rulers of their own groups, by imperialism and by the reactionary rulers of the Han majority, the small nationalities suffered from savage exploitation and political oppression. They led a poverty-stricken life. With the establishment of the People's Republic of China, implementation of a correct nationalities policy has righted the wrongs of past centuries. This policy was stated in the Common Programme of the Chinese People's Political Consultative Conference in 1949 and later embodied in the Constitution in 1954. Article 3 of the Constitution reads:

The People's Republic of China is a single multinational state.

All the nationalities are equal. Discrimination against, or oppression of, any nationality, and acts which undermine the unity of the nationalities are prohibited.

All the nationalities have freedom to use and foster the growth of their spoken and written languages, and to preserve or reform their own customs or ways.

Regional autonomy applies in areas where people of national minorities live in compact communities. National autonomous areas are inalienable parts of the People's Republic of China.

In areas where the national minority people live in compact community, regional autonomy has been introduced steadily. The Inner Mongolian Autonomous Region, the Sinkiang Uighur Autonomous Region, and the Kwangsi Chuang Autonomous Region, all of provincial status, and many autonomous *chou* and autonomous counties have been set up.

In the cultural field, a Central Institute for Nationalities has been established in Peking with branches in the North-west and South-west. In minority areas large-scale school development is going on in addition to the provision of training classes for national minority government employees. Trade has increased with the spreading of the state trading network into minority areas. Life is steadily improving with measures taken for water conservancy, prevention of natural calamities, popularization of new methods in agriculture and animal husbandry, and improvements in the quality of seed and livestock. Medical teams are sent from the Ministry of Health as well as from provincial departments to help fight disease, and treatment is given free of charge. Local medical and health departments and veterinary services have also been established.

As a result of all these measures, a new atmosphere of harmony and friendliness prevails among the different nationalities.

Plans for developing the economy envisage the exploitation of the natural resources in minority areas, the development of industry, and the extension of communications, which will bring about further economic and cultural advances and will further cement the strong relationship between China's nationalities.

*Part II*  
REGIONAL

**F**OR administrative purposes China is divided into 22 provinces plus the Inner Mongolian Autonomous Region, the Sinkiang Uighur Autonomous Region, the Kwangsi Chuang Autonomous Region, Tibet and the Chamdo Area, and two cities directly under the Central Government — Peking and Shanghai.

Geographically, however, the country may be more conveniently divided into 12 regions, taking into account natural characteristics and provincial borders. The regions are:

1. The North-east Region: Provinces of Liaoning, Kirin and Heilungkiang;
2. The Lower Yellow River Region: Provinces of Hopei, Shansi, Honan, Shantung and the city of Peking;
3. The Lower Yangtse Region: Provinces of Kiangsu and Anhwei and the city of Shanghai;
4. The Middle Yangtse Region: Provinces of Kiangsi, Hunan and Hupeh;
5. The South-east Coastal Region: Provinces of Chekiang, Fukien and Taiwan;
6. The Kwangtung-Kwangsi Region: Kwangtung Province and Kwangsi Chuang Autonomous Region;
7. The Yunnan-Kweichow Region: Yunnan and Kweichow provinces;
8. The Szechuan Region: Szechuan Province;
9. The Tibetan Region: Tibet and the Chamdo Area;
10. The Shensi-Kansu-Chinghai Region: Shensi, Kansu and Chinghai provinces;
11. The Sinkiang Region: Sinkiang Uighur Autonomous Region;
12. The Inner Mongolian Region: Inner Mongolian Autonomous Region.

## CHAPTER NINE

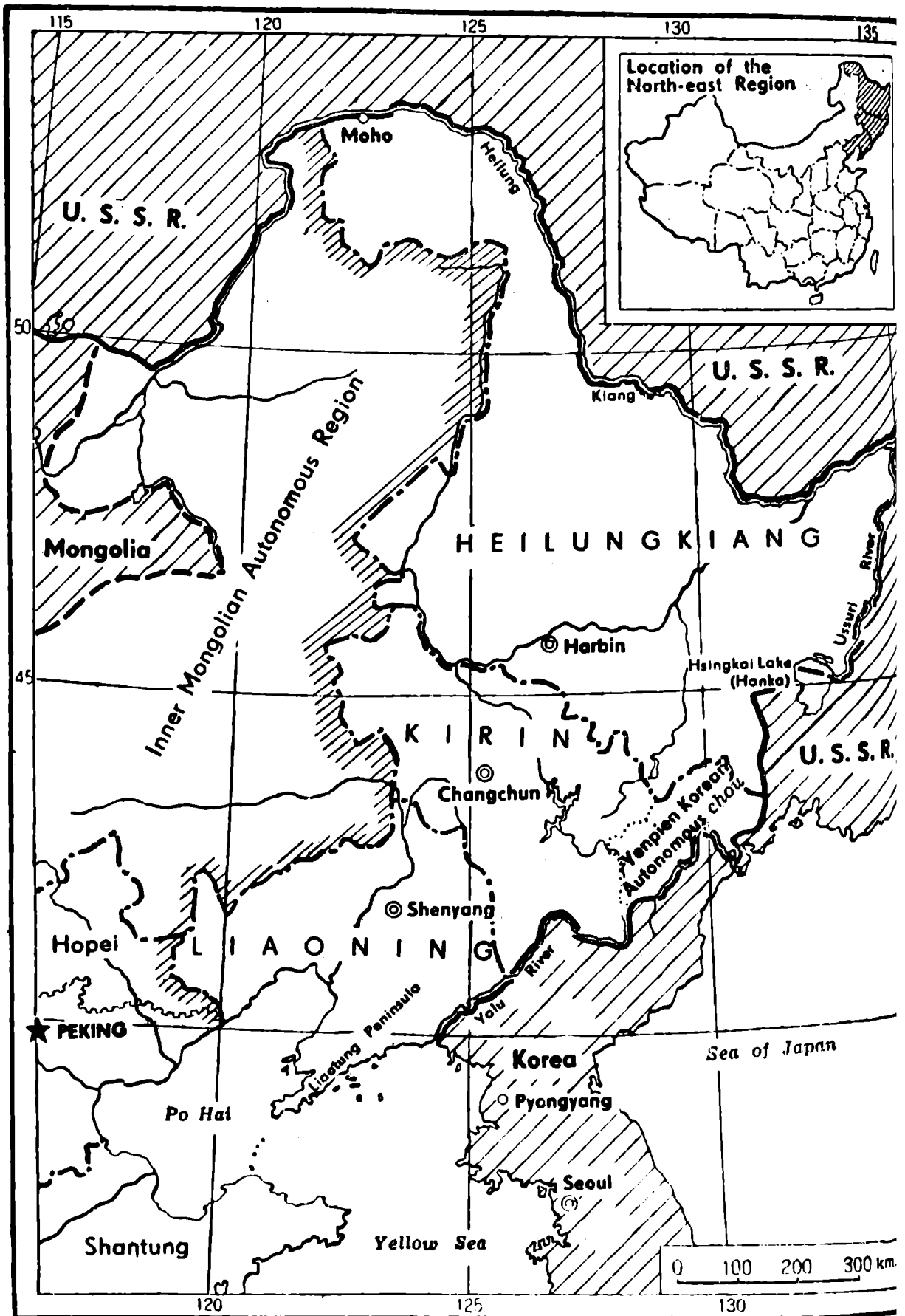
# THE NORTH-EAST REGION

### Location and Physical Features

The North-east Region comprises Liaoning, Kirin and Heilungkiang provinces and is 830,000 square kilometres in area. It borders on the Soviet Union and Korea on the north and east. On the south it ends in the Po Hai and the Yellow Sea, where the Liaotung Bay cuts deep into Liaoning Province. The coast, bays and islands on the south provide excellent facilities for shipping, fishing and salt making. On the south-west and the west, the region is bounded by Hopei Province and the Inner Mongolian Autonomous Region.

The North-east Region is the northernmost part of China extending to Latitude 53°N. The Changpai Mountains and their connected ranges in the east, the Lesser Khingan in the north, and the eastern slopes of the Greater Khingan on the west lend the region its mountainous character; only in the centre is the region low and flat. The entire region may be divided into four natural areas: the North-east Plain, the Southern Liaoning Hills, the Changpai Mountain Area, and the Khingan Mountain Area.

**The North-east Plain.** The North-east Plain is an immense flat basin stretching from the middle Nun Kiang



**The North-east Region, Administrative Divisions**



(Nonni River) in the north to the Liaotung Bay in the south and is drained by the middle and lower sections of three rivers — the Liao Ho, the Nun Kiang and the Sungari. It measures some 350,000 square kilometres and is the largest in the country, taking up one third of the nation's total plain area.

The plain was formed mainly by erosion and alluvial deposit by the rivers. Its southern part is created by the alluvium of the Liao Ho, while alluvial plains are also found along the Sungari and its tributary, the Nun Kiang, on the north. Between these alluvial plains and the Lesser Khingan Mountains lies a vast platform. The Changchun area in the central part is higher than the rest. It stands at about 250-350 metres above sea level and is the watershed between the Liao Ho and the Sungari. A long period of erosion has worn away the mountain tops until the whole aspect today is that of a slightly rolling plain, known as an erosional plain. The result is that the Liao Ho Plain and the Sungari-Nun Plain have been joined into an entity in the shape of a continuous, north-south plain.

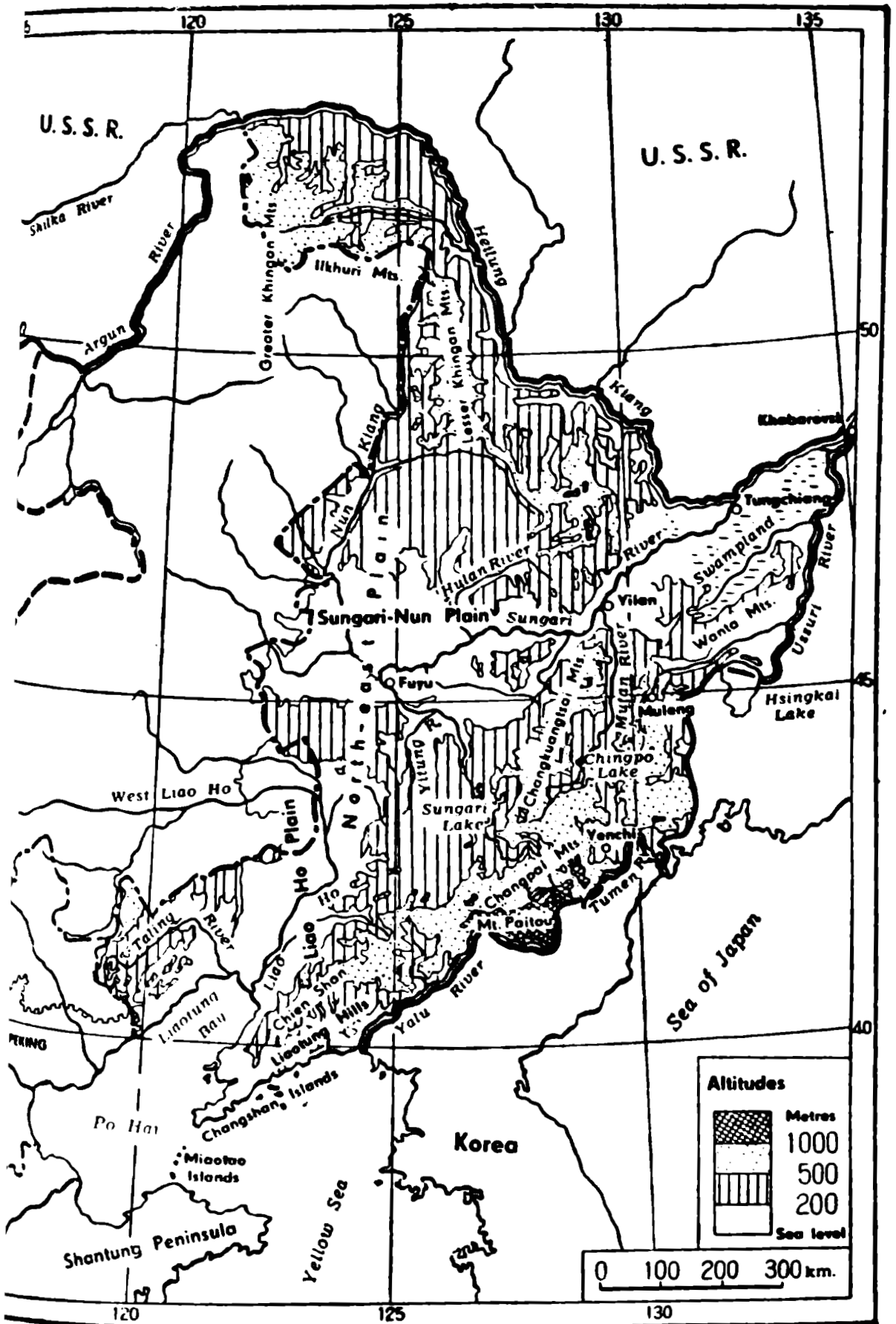
The eastern section of the North-east Plain, which juts out prominently, is the meeting place of the Sungari, the Ussuri and the Heilung Kiang. Here is a flat low-lying marsh, fertile and suitable for agriculture. Under the old regime the area was neglected and commonly referred to as the "Northern Wilderness." Since liberation, however, state farms have been established in the area. The Friendship Farm, the biggest, set up in 1954 with the aid of the Soviet Union, is of 32,804 hectares. There is now a planned migration of people from the southern parts of the region and from North China to this area. The "Northern Wilderness" has begun to change in appearance and will soon become a great granary.

**The Southern Liaoning Hills.** Prolonged erosion of the mountain ranges in the Liaotung Peninsula and in the river basins in south-west Liaoning Province has formed two not very high but slightly undulating hilly areas standing between 200 and 500 metres above sea level. Narrow plains stretch along the seacoast and rivers. In this area the flat lowlands are dotted with farms, the hillsides covered with fruit trees. Coal, iron, magnesium and oil shale are found in large quantities. The first opencast coal-mine built by People's China — the Hai-chow mine in Fuhsin — is located here.

**The Changpai Mountain Area.** North of the hills in the Liaotung Peninsula and south of the Sungari Plain are the mountain areas of the Changpai, the Changkuangtsai and the Wanta, collectively known as the Changpai Mountain Area. Elevations are generally between 500 and 1,000 metres. The topmost point, Mount Paitou (White Head) of the Changpai Mountains, is 2,744 metres above sea level, the highest for the North-east. Erosion has reduced most of the Changpai Mountain Area to a plateau type of land with an uneven surface, cut with many river valley basins.

Plenty of volcanic remains are to be found. Among them, Mount Paitou was formed by volcano action, and its crater-lake is the famous lake Tien Chih (Heavenly Pond). The Chingpo Lake was formed when the valley on the upper Mutan River was blocked by lava. Water cascading from the Chingpo Lake forms a great waterfall called the Tiaoshuilou Waterfall.

The Changpai Mountain Area is endowed with extensive forests. Its streams and lakes have good power potentials. Especially important are its rich mineral



**Topography of the North-east Region**

deposits, of which the best known are coal and oil shale located near Fushun.

**The Khingan Mountain Area.** North of the Sungari-Nun Plain is a series of mountains forming a bow-shaped arch. The mountains on the west are a part of the Greater Khingan, the Ilkhuri on the north and the Lesser Khingan on the east, collectively known as the Khingan Mountain Area.

Elevations here are similar to those obtaining in the Changpai Mountain Area. The rich forests teem with many types of animals. The area possesses coal and gold deposits. It is the gold-mining centre of the country.

## Climate, Rivers and Lakes

**Climate.** Apart from the southern and south-eastern coastal areas, which being influenced by the ocean are warmer and wetter, the greater portion of the region has a continental climate and is dry and cold.

The winter is extraordinarily cold, with continuous winds blowing in from Siberia and the Mongolian Plateau. Average January temperature is  $-8^{\circ}$  C; in the Khingan Mountains the thermometer drops to  $-28^{\circ}$  C. Winter days are very short. In late December in northern Heilungkiang Province, the day is only seven or eight hours long and the night stretches out for 16 or 17 hours. Streams are frozen, and horse-carts and motor vehicles drive on their frozen surface safely. On the snow-clad plains, sleds are used as a common means of transport.

Summer temperatures are fairly high, averaging  $20^{\circ}$  C in July. Summer days are long — 16-17 hours in late June in northern Heilungkiang.

Summers are short; some places enjoy two or three months of summer while other parts, in the north, have none of it. The growing period for plants is, therefore, reduced to five or six months a year, and crops in general are sown at the end of spring or the beginning of summer, and harvested in autumn.

The annual precipitation over most parts is no less than 500 mm., but is very unevenly distributed. It reaches 750 mm. and more in some places in the south-eastern mountainous area lying close to the sea. The annual precipitation gradually decreases as we move north-west, and is less than 500 mm. in much of the north-western parts of the North-east Plain and the Khingan Mountain Area. Half of the annual precipitation occurs in the summer months of July and August.

**Rivers and Lakes.** Such climatic conditions as we have described above have stamped the rivers of the North-east Region with two distinct features. The first is that they all freeze in winter, for three months in the south, more than four months in the middle part, and for as many as six months in the north. The second is that the Changpai Mountain Area—where such big rivers as the Sungari, the Ussuri, the East Liao Ho and the Yalu originate—is the main source of water in the North-east. Large lakes, including the Chingpo, the Sungari and the Hsingkai (Lake Hanka), are located in the south-eastern part of the North-east Region.

The Heilung Kiang (the Amur), longest in the North-east, forms part of the Sino-Soviet border. In summer it can carry steamships up to Moho. It has two major tributaries, the Ussuri and the Sungari. The Sungari is the most important river in this region for three reasons. The first is that it has a broad drainage area

covering roughly half of the entire North-east. Secondly, it has a long navigable channel, and is good for steamship transport up to Kirin city. Thirdly, the flow in its tributaries and its own upper section is rapid, providing favourable conditions for the construction of hydro-electric power stations. Fengman and the Chingpo Lake waterfall on the upper reaches of the Mutan River are major sources of hydro-electric power in the North-east.

The Yalu on the Sino-Korean border has a swift flow and is also rich in hydro-electric power.

The Liao Ho in its upper course consists of two rivers. The West Liao Ho is longer and has its headwaters in the Inner Mongolian Autonomous Region, while the East Liao Ho has its origin on the western side of the Changpai Mountains. As the West Liao Ho flows through desert territory in Inner Mongolia, it carries much silt, which, when the river slows down on the plain, precipitates. This results in the danger of inundation during the flood season. During the three years 1935-1937 an average of more than 220,000 hectares of land was submerged every year. Since liberation, great effort has been made to prevent floods along the Liao Ho, drastically reducing the area struck by floods.

## Soils and Vegetation

The vastness of the region, the complexity of its land features, the sharp variation in climate and the varying utilization of land over the centuries have resulted in a marked difference between the soils and vegetation of its various parts.

In the mountain areas of the Changpai and Khingan the soil for the most part is turfy podzolic soil which favours tree growth. Brown forest soil prevails only in the south-eastern part of the Changpai Mountains and lowly situated slopes and gullies. From the Changpai to the Khingan ranges, from the Yalu River to the Heilung Kiang, vast forests predominate, making up 29.4 per cent of China's total timber reserves. Trees are largely conifers and are distributed in comparatively cold areas such as the higher levels of the Khingan and Changpai mountain areas. In the warmer foothills and valleys are mixed forests of conifers and broad-leaf trees, with the former predominating.

Before 1949, forest fires were not infrequent, and the forests also suffered from predatory destruction by the Japanese invaders. After the North-east was liberated, the People's Government laid down a policy of forest administration. Controlled felling was enforced; modern tools and tractors were introduced for felling and transport to make the region the largest supplier of timber in the country. Forest railways were built. Ichun, which used to be a dreary little railway station of a dozen families at the southern slope of the Lesser Khingan, has blossomed into a modern town of more than eighty thousand souls.

The North-east Plain and the hills in southern Liaoning Province were long ago a temperate grassland and a temperate mixed forest area. A long period of cultivation, however, has destroyed most of the trees, leaving only small forests on the hilltops.

The northern section of the North-east Plain used to be overgrown with lush grass which, together with decomposed twigs and leaves washed down from the sur-

rounding forests, produced a soil rich in humus — black earth which is thick and very fertile. The southern section of the plain is formed mainly of fertile dark brown soil. Both types of soil are good for agriculture.

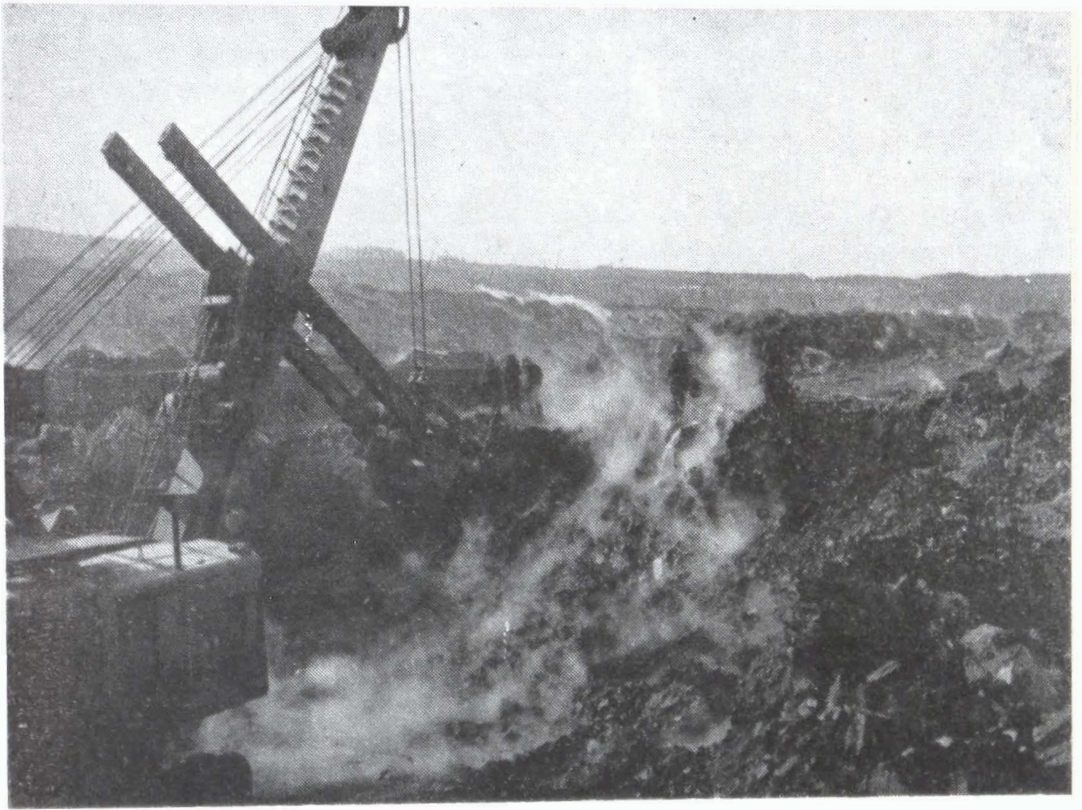
In the western section, the soil being deprived of its protective cover, erosion and consequential sandstorms occur.

After liberation the People's Government immediately took up the battle against nature. In 1951 planting of a shelter belt was begun in the western part of this region and the eastern part of Inner Mongolia, which is scheduled to be completed before 1967. Stretching as far north as the eastern foot of the Greater Khingan and as far south as west Liaoning, the belt measures 1,000 kilometres from north to south and is 300 kilometres at its widest point from east to west. A network of forests will appear over the western section of the vast plain. The face of the earth will be changed with trees flanking the roads, protecting the headstreams and the banks of rivers, consolidating the desert and preventing sand storms. The vast plains will be converted into fertile fields, pastures and forest stands. This ambitious afforestation plan has been vigorously pushed ahead with evident initial successes.

## Inhabitants and Economic Development

**Inhabitants.** Altogether more than 43,700,000 people inhabit the North-east, most of them living in the southern part. Upwards of 90 per cent are Hans who are distributed throughout the area. The largest minority groups are the Manchus and Koreans, the latter being found mostly in the Tumen River basin. Others are

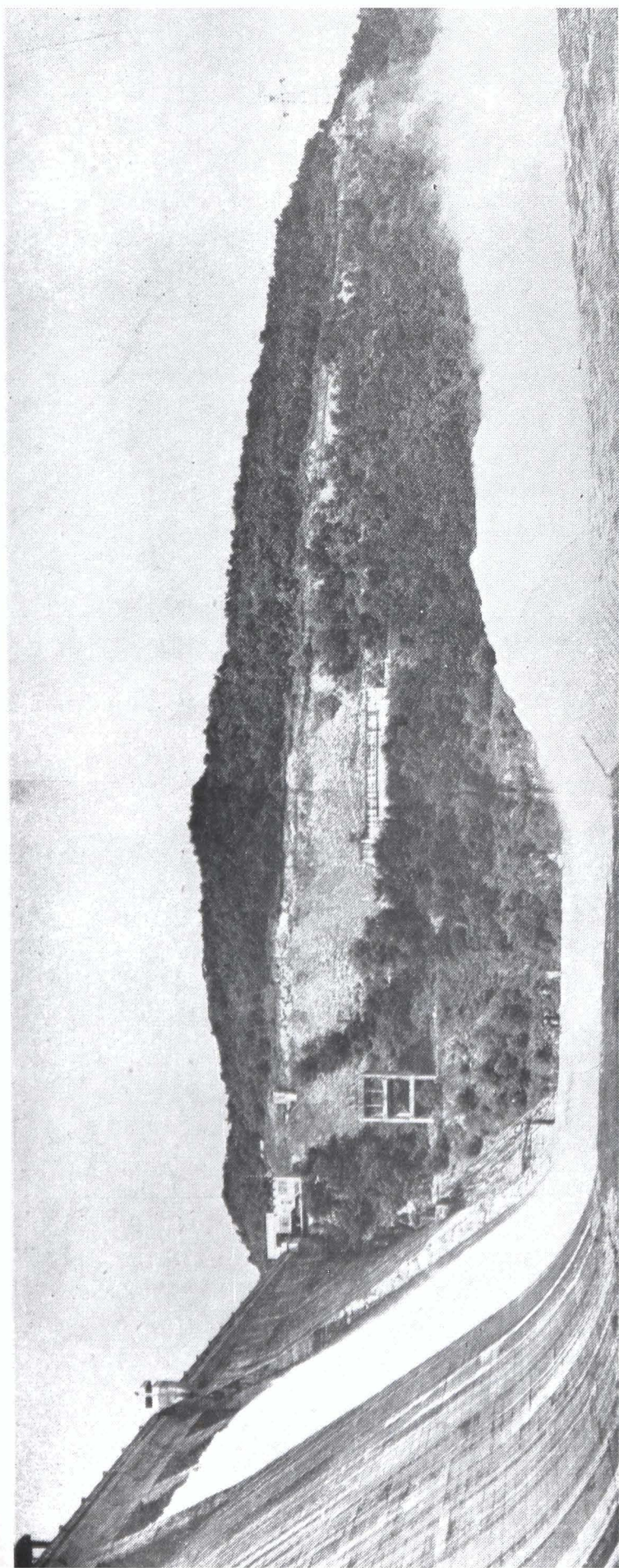




**Haichow opencast coal-mine at Fuhsin, Liaoning Province**

**Night scene in the steel city of Anshan**





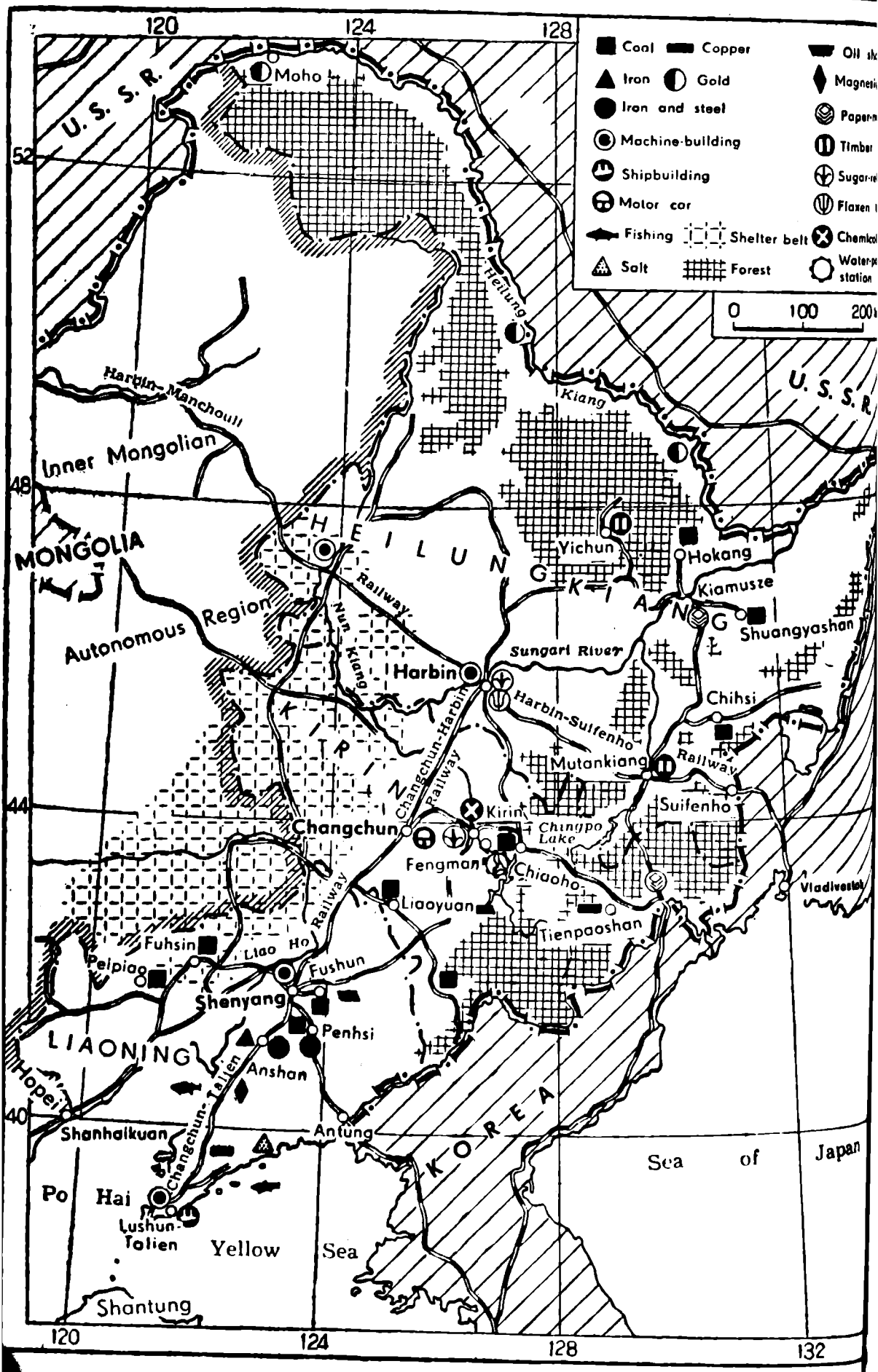
**Fengman Hydro-power Station in Kirin**

Mongolians, Huis and Daurs who live chiefly in the hilly districts of the northern and western parts. The policy of the People's Government is for regional autonomy of the national minorities. The Koreans, for instance, have set up an autonomous *chou* at Yenpien in Kirin.

**Largest Industrial Base.** Being the most intensely developed industrially, the North-east is the pride of China. Total value of industrial and agricultural production in 1952—the last year of economic rehabilitation—exceeded that of the pre-liberation peak year of 1943 by 39 per cent; industry occupied as much as 54 per cent in the total value of industrial and agricultural output, which accounts for the region's leading position in China's industry.

The major heavy industrial centres in the south are Shenyang, Fushun, Anshan, Penhsi (Penki) and Lushun-Talien (Port Arthur and Dairen); in the north, Changchun, Harbin and Tsitsihar. The opencast coal-mine in Fushun is equipped with up-to-date excavators and its annual output is the country's largest. Fushun also has large deposits of oil shale. Great quantities of coal are also dug in Penhsi and Peipiao. China's largest opencast mine is at Fuhsin, which is not yet in full operation. Iron and steel production is mainly concentrated in Anshan, Penhsi and Shenyang, where coalfields and iron mines lie close to one another, a factor favourable for developing this branch of heavy industry. Anshan is known as China's steel city, with the highest output in the country.

The ready supply of iron and steel supports a flourishing machine-building industry. Shenyang makes a great variety of machines. Changchun is the site of the No. 1 Motor Works. Harbin has a large new plant which turns out electric motors. Talien is famous for shipbuilding.



- |                    |                |                 |
|--------------------|----------------|-----------------|
| ■ Coal             | ■ Copper       | ⬇ Oil sh.       |
| ▲ Iron             | ● Gold         | ◆ Magnet.       |
| ● Iron and steel   | ⊙ Paper        | ⊕ Timber        |
| ⊙ Machine-building | ⊕ Sugar        | ⊕ Flaxen        |
| ⊕ Shipbuilding     | ⊕ Motor car    | ⊕ Fishing       |
| ⊕ Salt             | ⊕ Shelter belt | ⊕ Forest        |
|                    |                | ⊕ Water station |

0 100 200

120 124 128

52

U.S.S.R.

Moho

Harbin-Manchouli

Inner Mongolian

MONGOLIA

Autonomous Region

HEILUNJIANG

Harbin

Sungari River

Yichun

Hokang

Kiang

U.S.S.R.

Changchun-Harbin Railway

Changchun

Kirin

Mutankiang

Shuangyashan

Chihsi

Harbin-Suifenho Railway

Suifenho

Chingpo Lake

Fengman

Chiaoho

Liaoyuan

Tienpaoshan

Vladivostok

LIAONING

Shenyang

Penhsi

Anshan

Antung

Sea of Japan

Yellow Sea

Shantung

Shanhaiquan

Changchun-Taiien

Lushun-Talien

120 124 128 132

48

44

40

Hopei

The well-known water-power station at Fengman furnishes enough power that keeps the factories and mines in the North-east working.

Considerable expansion has also taken place in salt making along the seaboard and in timber felling. Other industries are paper making, flour, oil and sugar refining.

**Agriculture.** With several scores of mechanized state farms set up after the land reform, part of the vast wasteland reclaimed, and water conservancy work improved and expanded, agricultural production is surging ahead in the vast fertile plains of the North-east. Agricultural output in 1952 already out-distanced that of the pre-liberation peak level by 40 per cent, fundamentally changing the situation where under the Japanese occupation agriculture lagged far behind industry.

Main crops are soya beans, wheat, sugar beet, sorghum, flax and tobacco. The North-east is one of the biggest soya bean areas in the world, gathering an annual harvest that is not only sufficient for home consumption, but leaves a big surplus for export. The output of sorghum and sugar beet ranks first in the country. Cotton, sorghum and tobacco are mostly grown in the southern part of the North-east Plain, soya beans in the middle and northern parts, wheat, sugar beet and flax in the north and rice on the Tumen River basin and along the lower Liao Ho where irrigation is good. The Liaotung Peninsula is famous for its tussah silk and fruits. Liaoning Province produces 70 per cent of all the apples in the country, and more than 50 per cent of tussah silk, both export commodities which are in great demand.

One of China's main pasturelands is located in the western part of the North-east, which produces large

quantities of hides, sheepskins, furs, meat, eggs and dairy products.

## Communications and Cities

The North-east has more railways than any other region in the country, possessing a network of fifty trunk and branch lines. Harbin is a railway hub. One line goes west to Manchouli, which connects with the Siberian Railway; another leads east to Tungning where trains cross Suifenhö for Vladivostok; yet another links with Lushun-Talien in the south running through Changchun and Shenyang.

The southern coast, washed by the Po Hai and the Yellow Sea, has many excellent harbours.

Shenyang is the centre of the railway system in the south of the North-east Region. The Changchun-Talien line passes through it; other lines lead to Shanhaikuan and to Antung near the Sino-Korean border. The city, the largest of the region, has a population of two million and is the provincial capital of Liaoning. It is crowded with factories. Shenyang is connected by rail with Fushun, Penhsi and Anshan, which, together with Shenyang, constitute the industrial base for the North-east and the country as a whole.

Situated on the south bank of the Sungari River, Harbin (population exceeding one million) is the northern centre of water and land transport, and is the provincial capital of Heilungkiang. It has flour mills, sugar refineries, flaxen mills, and many newly built plants such as those manufacturing electric motors and precision instruments.

Lushun and Talien, the largest ports in the North-east, are situated at the southern tip of the Liaotung Peninsula. Lushun port has a very narrow entrance, wide enough for only one warship to pass through at a time. The harbour proper, however, is both wide and deep, and can accommodate several dozen warships. It is protected from storms by a circle of mountains, and is free from ice in winter. It is an excellent naval base.

Talien, to the north-east of Lushun, is also a wide, deep and ice-free port, with modern harbour equipment. It builds ships, manufactures machines, makes steel and refines oil.

## CHAPTER TEN

# THE LOWER YELLOW RIVER REGION

### Location and Physical Features

The Lower Yellow River Region includes Hopei, Shantung, Shansi and Honan provinces and Peking, a municipality directly under the Central Government. It has an area of about 680,000 square kilometres — seven per cent of the total area of the country. On the north-west, it touches the dry Inner Mongolian steppe and desert. On the south are the warm, humid central and lower Yangtse valleys. The western part of the region is a plateau and mountain area connecting Shensi Province. The Po Hai and the Yellow Sea on the east are separated by the Shantung Peninsula and the Liaotung Peninsula in North-east China, which, like a pair of pincers, are of vital significance strategically.

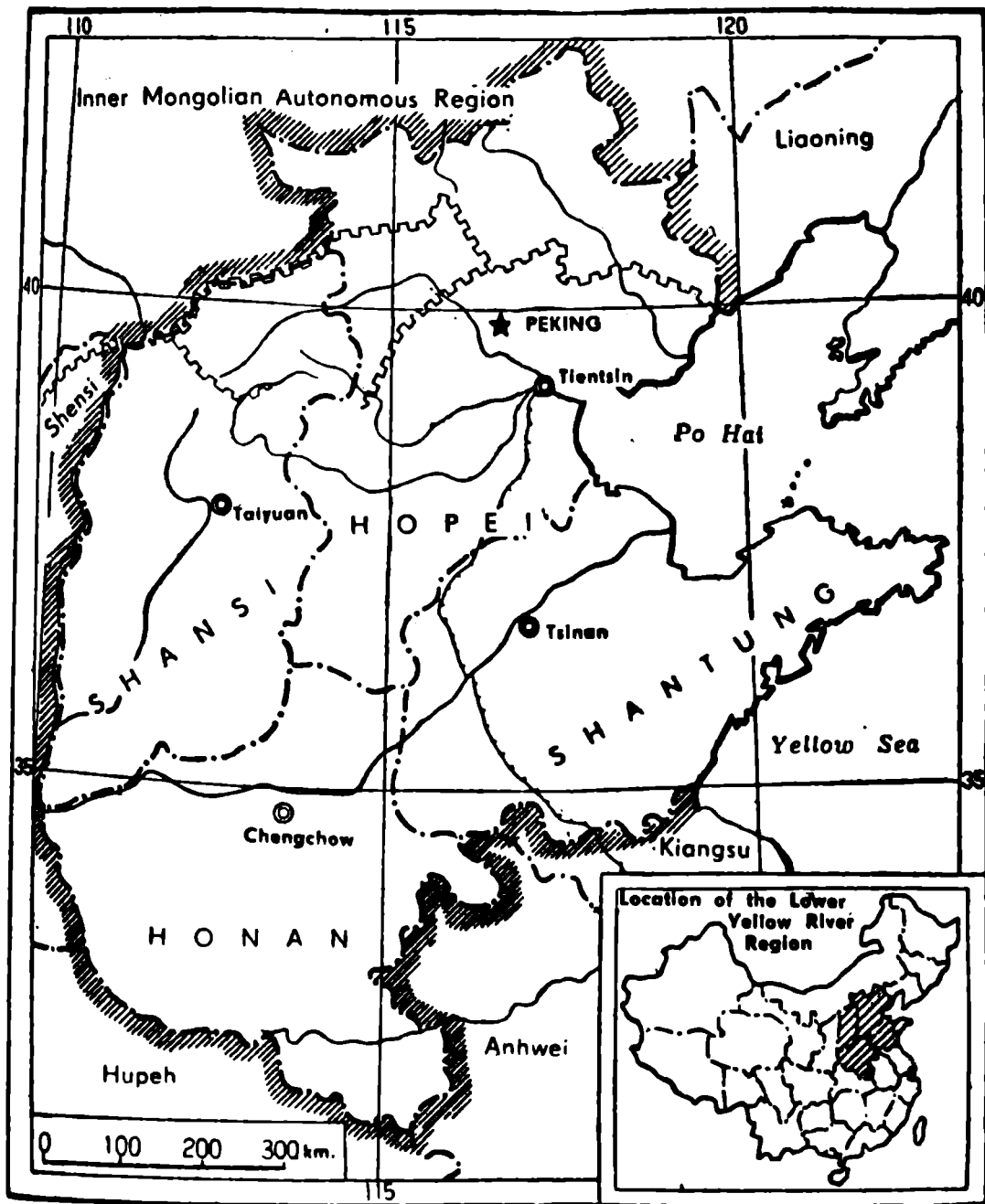
It has a hot summer with the greater part of the annual rainfall and a dry, cold winter with frequent windstorms.

Peking, China's capital, is located in Hopei Province.

Topographically, the region may be divided into three parts: 1. the North China Plain; 2. the Shantung Hills; and 3. the plateau and mountain areas.

**The North China Plain.** Approximately equal in area to the North-east Plain, the North China Plain is bordered





**The Lower Yellow River Region, Administrative Divisions**

by high mountains on the north and west. On the north-east, the narrow strip of coastal plain along the Po Hai connects with the North-east Plain to form a corridor. Its south-east extreme stretches to the northern parts of Kiangsu and Anhwei and links up with the Huai River Plain. It embraces the greater part of Hopei Province, eastern Honan and western Shantung.

Geologists claim that in remote antiquity, a large part of this plain was sea, merged with the Po Hai and the Yellow Sea. The Shantung Hills were formerly a big island in the Yellow Sea. Over long years the silt from the Yellow River, the Hai Ho, the Luan Ho and the Huai River gradually formed land until it became a vast alluvial plain. Bodies of shallow water are still present in the northern part of the plain in Hopei, such as the Paiyang Tien and the Tung Tien, which have not yet silted up.

The North China Plain is uniquely flat and low — 50 metres and less in most places. The soil is thick and generally rich. Rivers traverse the plain, carrying great quantities of silt continuously raising their beds. Vestiges of old river-beds can be seen everywhere. Certain lakes and depressions, like the Paiyang Tien and the Tung Tien in Hopei, and the Tushan Lake and Weishan Lake along the Grand Canal, are steadily filling up with silt.

**The Shantung Hills.** The Shantung Peninsula and the central part of Shantung Province together are called the Shantung Hills. Between the ranges are flat, mostly narrow valley plains, although the Chiao Ho valley plain is an exception. This valley plain, through which runs the railway from the port of Tsingtao to the provincial capital of Tsinan, divides the hilly region into two parts: the lower eastern part is less than 500 metres above sea

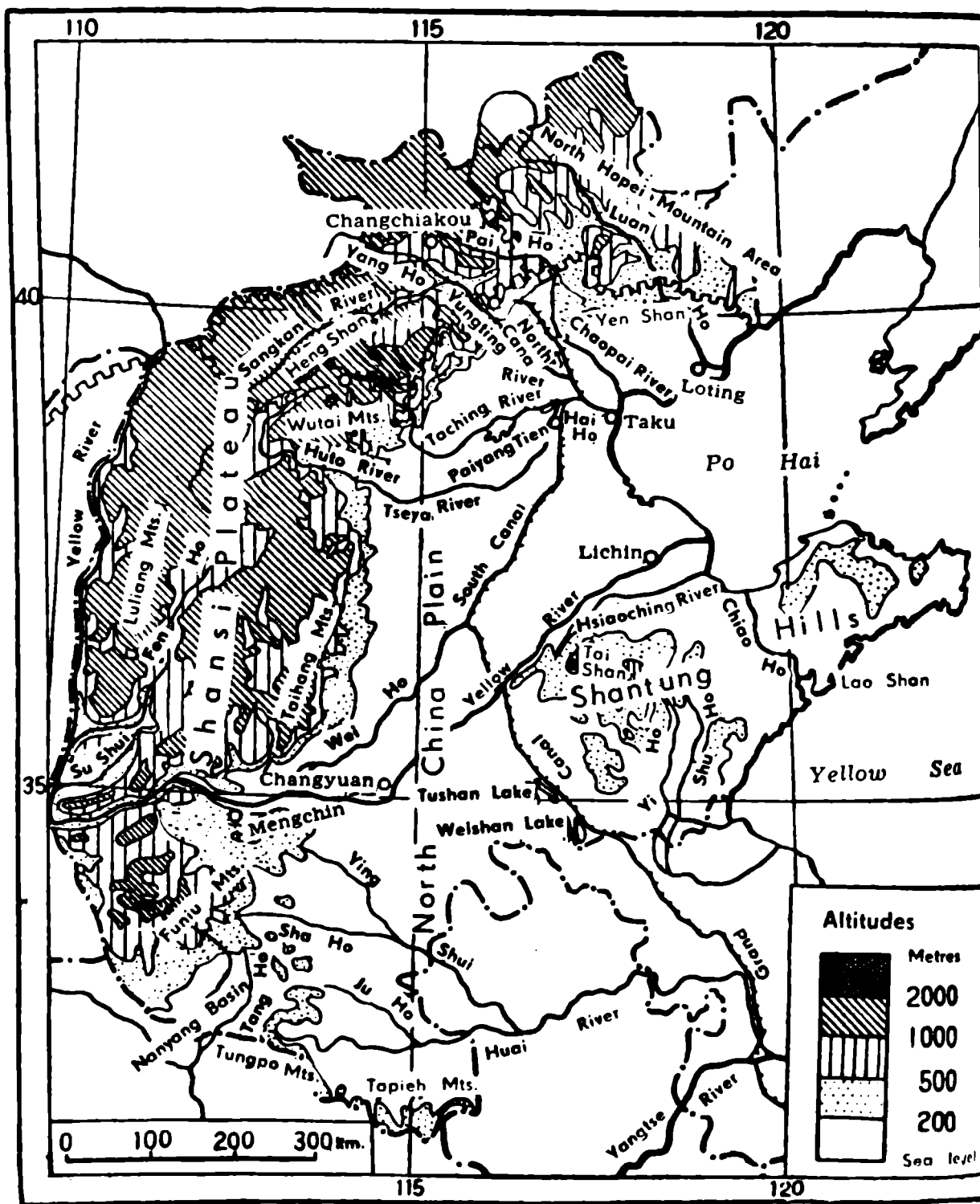
level, with the Lao Shan (1,100 metres) as the highest point, and the higher western part, with the Tai Shan (1,532 metres) as the highest, towering majestically over the extensive surrounding plain.

The Shantung Hills have rich mineral deposits close to the surface, mostly coal and iron.

**The Shansi Plateau and Mountain Areas.** To the north and west of the North China Plain are the Shansi Plateau, the Funiu Mountain Area and the Northern Hopei Mountain Area. On the northern periphery of the plain runs the Yen Shan along which and other mountains the famous Great Wall was built westward. On the border of Hopei and Shansi provinces are the Taihang Mountains which rise high at the east slope and less so at the west. Rivers traversing these ranges and flowing into the plain make many gaps which become important communication passes, such as Niangtsekuan and Pinghsingkuan. West of the Taihang lies the Shansi Plateau, with thick loess and some towering mountains—generally like northern Shensi and south-eastern Kansu. As a part of the loess land, the Shansi Plateau is badly dissected by rivers into many portions of different levels. Faulting has produced many basins and valley lands with rich soil, such as those in the vicinity of Taiyuan and along the banks of the Fen Ho. These are the main agricultural districts on the plateau.

Of the mountains on the plateau, the Wutai is the highest, being 2,893 metres above sea level. As the mountains descend gently, their slopes have been successfully cultivated for crop-growing.

In western Honan the Funiu Mountains sprawl. Rising on the west at 1,000 metres above sea level, they slope



**Topography of the Lower Yellow River Region**

down towards the east. The Tapiéh and Tungpo mountains divide the North China Plain from the plains on the middle and lower reaches of the Yangtse.

The Northern Hopei Mountain Area, over 1,000 metres above sea level, is physically rather flat and open, forming a part of the Inner Mongolian Plateau. Decreasing from north to south in elevation, it, however, rises and falls sharply between the lower hilly regions and valleys. The Little Wutai Mountain, 3,491 metres and the highest in the eastern part of the Yellow River basin, is located south-west of the Northern Hopei Mountain Area.

Both the plateau and the mountain areas are rich in mineral deposits. They have thick layers of high-quality coal, especially in Shansi (two-thirds of its counties have coal-mines). In many places, coal is close to the surface and mining is easy. Iron deposits in the Shansi Plateau are rather scattered. In northern Hopei, iron mines of Hsuanhua and Lungkuan are well known, being rich in quantity and excellent in quality, close to the surface and easy to mine.

Since liberation big, new iron deposits have been found in central Shantung. The close proximity of coal and iron deposits provides favourable conditions for the industrial development of the Lower Yellow River Region.

## Climate

The Lower Yellow River Region has a continental climate. Summer is hot (July average 24° C) with plenty of rainfall; winter is cold (January average -4° C) with little rainfall and occasional snow. Spring is very short

and the north-west winds in autumn carry large amounts of dust and sand.

Precipitation in most places of this region is about 500 mm. yearly. Three quarters of the annual rainfall occurs in the plant-growing summer, generally sufficient for the crops. Rains, often heavy downpours, are mostly concentrated between June and August causing the rivers to rise steeply. Insufficient rainfall in spring not infrequently results in drought conditions. There is also a sharp fluctuation of the rainfall from one year to the next, which is the cause of drought and waterlogging.

The portion of the Shantung Peninsula facing the sea has the best climatic condition in this region, having plenty of rainfall fairly evenly distributed over the four seasons, and no violent change between cold and warm weathers as in the interior provinces. The coastal districts are ideal in summer. Picturesque Tsingtao, with its bathing beaches, its forests, and Lao Shan, is a favourite tourist resort. Like Tsingtao, Chinwangtao on the coast of Hopei Province is another famous summer resort of North China.

## Rivers and Their Harnessing

North China's principal rivers are the Luan Ho, the Hai Ho, the Yellow River and the tributaries of the upper reaches of the Huai River. They have their source in the plateau or mountain areas or traverse them. They carry much silt which, flowing over the plain, is deposited on the river-beds. The gradually shallowing rivers offer little advantage for navigation and call for constant attention to confining dykes along their courses.

The over-concentration of the annual rainfall in the summer months and the neglect by the rulers of the old regimes made North China one of the areas most frequently damaged by disastrous floods. Since liberation, the People's Government, devoting itself to the betterment of the people's living conditions, has paid great attention to the harnessing of the rivers. Water conservancy engineering on a gigantic scale has been turning harmful rivers into a source of blessing to the people.

**The Yellow River.** Winding its course southward from Inner Mongolia, the Yellow River flows between Shansi and Shensi, forming their natural boundary. With high mountains on both banks, the swift current in this section of the river makes the waterfall at Hukou and the rapids at Lungmen. Below Lungmen the current slows down. Joined by the Fen Ho and the Wei Ho, the waters again increase drastically. As the Yellow River's biggest tributary, the Fen Ho cuts vertically across Shansi, banked by small but rich basins and plains.

Continuing its southward course, the Yellow River is blocked by the Chinling Mountains near Tungkuan, and has to make a right-angled turn to the east. Approaching Shanhsien County, western Honan, it enters the Sanmen Gorge (Three-Gate Gorge). Coming out of the gorge and passing Mengchin, it flows in the plain. Deposits of silt over the centuries have raised the river-bed until it is several metres above the level of the plain. This is the dangerous section of the Yellow River. More than once in history, the embankments were breached, and water overflowed the vast low-lying regions, sometimes even changing the river's course. There was, for a time, a new course through Hopei Province to the

sea. Another time it joined the Huai to the sea through northern Kiangsu.

After liberation, the People's Government undertook the strengthening of the existing dykes and developed irrigation. In Honan Province, for example, the People's Victory Canal north of Chengchow was built to draw water from the Yellow River into the Wei Ho. This canal irrigates the farmlands alongside as well as increasing the volume of water in the Wei Ho to facilitate navigation between Hsinhsiang and Tientsin. According to the multiple-purpose plan for permanently controlling the Yellow River and exploiting its water resources, the first phase, as far as this region is concerned, includes afforestation and soil preservation and construction of a series of reservoirs and hydro-electric power stations. The largest multiple-purpose scheme, which will handle flood-control, power-generating and irrigation, is being carried out at the Sanmen Gorge, east of Shanhsien, Honan. In midstream are two rocky islets which divide the river into three "gates," known as the "Gate of Man," the "Gate of Gods" and the "Gate of Ghosts." Here the river is narrow with high cliffs along both shores and the river-bed is solid rock — an ideal place to build a check dam and reservoir. The dam is planned to be 100 metres high. Extending westward from the dam to the banks of the Wei Ho at Lintung, Shensi, the new reservoir will be capable of holding 36,000 million cubic metres of water. Once the Sanmen Gorge multiple-purpose scheme is completed, flood waters from the upper and middle reaches will be controlled and the muddy river water in the lower reaches will become clear. Not only will floods in the lower reaches be removed but



electric power of one million kilowatts will be generated and more than 1,340,000 hectares of farmland brought under irrigation. Steamers will sail on the lower reaches, hitherto navigable for junks only.

**The Hai Ho.** Made up by the confluence of five rivers — the Pai Ho (the north section of the Grand Canal, also called the North Canal), the Yungting, the Taching, the Tseya and the Wei Ho (the middle section of the Grand Canal, also known as the South Canal) — the Hai Ho is the main waterway in the great plain north of the Yellow River. Of the five rivers which join at Tientsin and empty into the Po Hai at Taku, the Yungting is the longest, having its source in northern Shansi known as the Sangkan River.

After liberation the People's Government excavated a canal at Tuliu near Tientsin, which leads the water directly into the sea. At Kuanting near Huailai County on the upper reaches of the Yungting, a check dam was built to store the water in a large reservoir, the Kuanting Reservoir, which has an area of 220 square kilometres and capable of holding 2,200 million cubic metres of water. Completed in spring 1954, and added to by the Lukouchiao barrage completed in 1957, it controls the flood on the lower reaches, generates power, irrigates land and supplies water to Peking and its surroundings.

## Vegetation and Soil

Most of the trees in this region are deciduous, broad-leaved and very few conifers. Pagoda-tree, poplar, willow and cedar are most common. Natural forest is scarcely seen except in the mountain areas. Soil erosion

has been very serious, as a result of wanton land reclamation on the hills during the past centuries.

**Soil and Its Improvement.** In the plateau and mountain areas, there is thick loess everywhere except for the northern part of Hopei which has desert calcium soil. The loess contains little organic matter but plenty of mineral substances suitable for growing crops. But loess is easily washed away or blown off; and because of lack of natural forest and grass, erosion is serious.

The North China Plain is covered by thick, rich alluvial soil. It has long been an important farming area in China. In certain parts of the plain, the soil is alkaline, and along the seacoast there is much saline soil. Since liberation the improvement of 270,000 hectares of salty wasteland along the Po Hai Bay has been completed. Near where the plain approaches the mountain areas and along the shores of major rivers and the sea are large tracts of sandy soil, which, carried by the wind, covers farmland in the neighbourhood. Since 1949 large-scale afforestation has been carried out in western Hopei, on the upper and lower reaches of the Yungting and in the Yellow River flood area.<sup>1</sup>

In the Shantung Hills is found mainly brown forest soil, fit for planting fruit trees — apple, pear, peach,

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<sup>1</sup>This flood area was created by the criminal destruction of the embankment of the Yellow River near Chengchow, Honan, in 1938 during the Anti-Japanese War. The deliberate dyke breaching, made by the Kuomintang regime in an attempt to stop the advancing Japanese invaders and to cover its fleeing troops, made the Yellow River change its course, and diverted its water into the two smaller rivers of the Chialu and the Wo Ho, causing inevitable overflowing. As a result, an area of more than 50,000 square kilometres was flooded, 12,500,000 people were affected by the disaster, and 890,000 deaths reported.

apricot, grapes, etc. — that cover the slopes and valleys, and make this region the country's most important temperate orchard in the north.

## Inhabitants and Economic Development

**Inhabitants.** The Lower Yellow River Region with a population of 148,850,000 is the most populous region of China. A greater number live in the North China Plain and the Shantung Hills.

**Industry.** North China has rich coal deposits. Although its annual output of coal is at present second to the North-east, it has high-quality coal, with many mines producing coking coal. Local coal-mines may be divided into three districts: (1) The most important is in the zone between the plain and the mountainous area, in which Kailan, Mentoukou, Chingsing, Fengfeng, Lihokou and Chiaotso coalfields are located; (2) On the plateau, the Tatung and Yangchuan coal-mines are the principal ones; (3) In the hilly area of Shantung, the main coal-mine is at Tsechuan.

North China now ranks second in the iron and steel industry, next only to the North-east. The best known iron mines are in Hsuanhua and Lungkuan. In Shih-chingshan, western Peking, in Tientsin, Tangshan, and Taiyuan, fairly large iron and steel plants have been set up. Machine-building factories follow, with centres at Tientsin, Taiyuan and Peking. The newly-built No. 1 Tractor Plant is located at Loyang. There is a locomotive factory in Tsingtao.

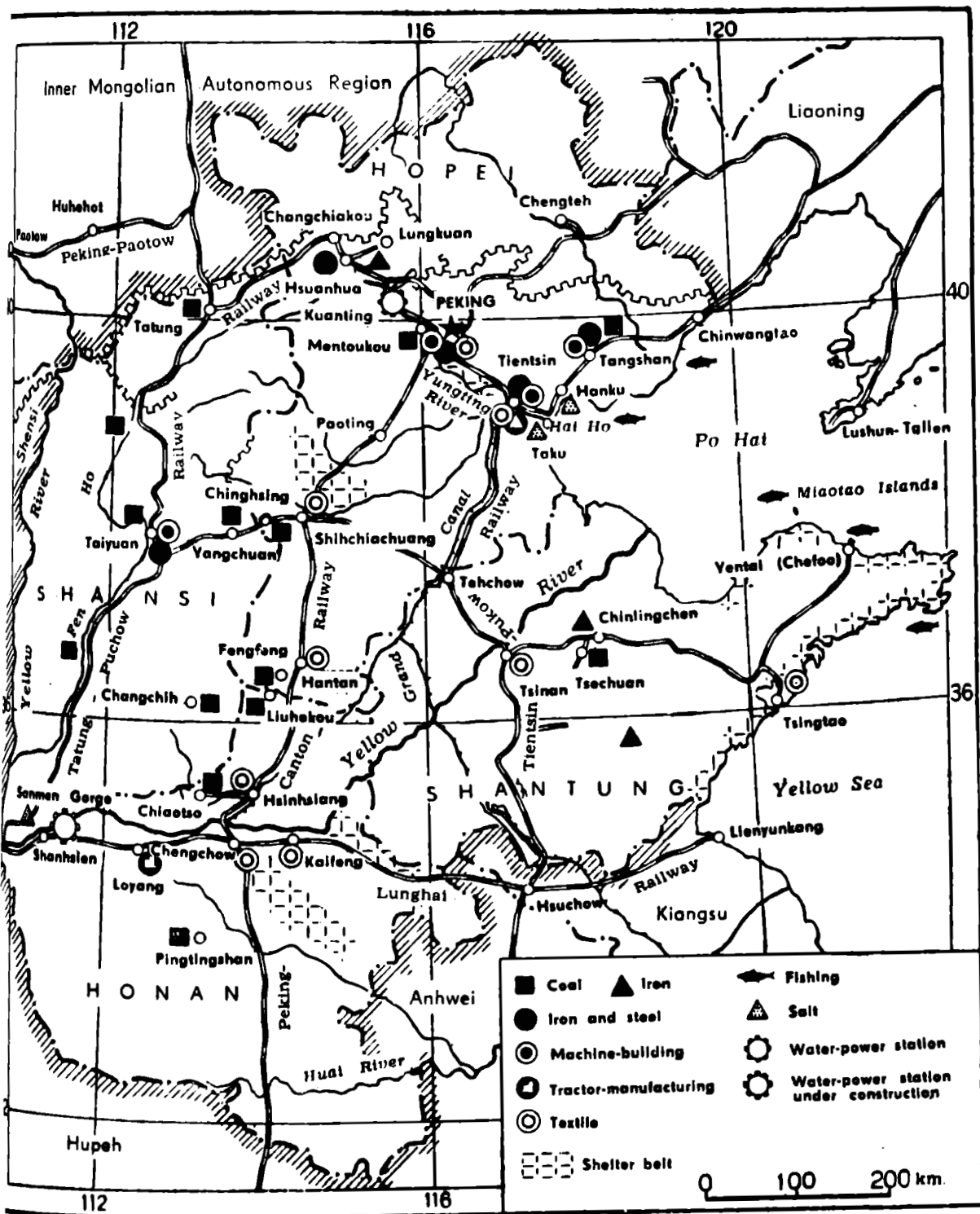
On the coast of Po Hai, especially at Hanku and Taku, salt is produced in great quantities. It constitutes an

ample supply of raw material for Tientsin's huge sodium carbonate industry. Chinwangtao has the largest glass factory in the country, while Tangshan and Taiyuan have cement factories.

**Agriculture.** The North China Plain is an important cotton and wheat-producing area. Tientsin and Tsingtao are its old textile centres. After liberation, new textile mills were built in Peking, Shihchiachuang, Hantan and Chengchow. Flour mills centre in Tientsin, Peking, Tsingtao, Tsinan and Chengchow.

Thanks to the good natural conditions, the irrigation works built after liberation, and the People's Government's encouragement, cotton output in North China has reached 62 per cent of the country's total. Hopei Province is China's biggest cotton producer, responsible for one-fifth of the country's output. Of the grain, wheat comes first, with 43 per cent of the country's total output. Besides wheat, the staple food of the north, millet, sorghum, soya beans, and maize are grown everywhere in big areas. Industrial crops in addition to cotton include peanuts, sesame and tobacco. Peanuts are produced mainly in Shantung, sesame in Honan and tobacco in the Shantung Peninsula and central Honan.

In northern Hopei and north-western Shansi, there is some livestock farming in addition to agriculture. The Shantung Hills produce temperate fruits. The Shantung Peninsula and the Funiu Mountains produce tussah cocoons. Along the coast, particularly around the Shantung Peninsula, with Tsingtao and Yentai (Chefoo) as centres, fishing is an important industry.



**Distribution of Industries of the Lower Yellow River Region**

## Communications and Cities

**Railways.** Railways are the principal means of communication in this region. The mileage is the second longest in the country, next to the North-east. From Peking four trunk lines radiate: (1) Peking-Shanhaikuan line via Tientsin connects the Shenyang-Shanhaikuan line which serves as an artery to the North-east; (2) Tientsin-Pukow line via Tsinan with terminus at Pukow across Nanking links the Lower Yangtse Region; (3) Peking-Canton line via Chengchow and Wuhan links the Middle Yangtse Region and Kwangtung and Kwangsi, and is at present the longest railway line in China; and (4) Peking-Paotow line via Tatung and Huhehot links Inner Mongolia. Within this network, there are the Lunghai, Shihchiachuang-Taiyuan, Shihchiachuang-Tehchow, Tsingtao-Tsinan and Tatung-Puchow lines.

**Water Transport.** The principal waterways inland are few. The Hai Ho is navigable for 3,000-ton ships between Tangku and Tientsin. Upriver from Tientsin, the Pai Ho, the Taching and the South Canal are open to junks while small steamers may sail in them during the high-water season. The Yellow River is only partly navigable for junks while a short section of its lower reaches are open to steamers.

In coastal shipping, Shantung Peninsula has the most favourable conditions. Its winding coast has many good harbours ice-free in winter, such as Tsingtao and Weihaiwei. Tientsin is the largest northern port. But the Hai Ho which serves Tientsin to the sea is much silted and frozen in winter. With the construction of the new harbour at Tangku, Tientsin's outport, 10,000-ton steamers can now enter and leave all the year round.

Chinwangtao, a deep and ice-free harbour, is an outlet through which the coal from the Kailan mines is shipped to southern ports.

**Peking, China's Capital.** Dear to the hearts of the Chinese people, this world-famous metropolis had a population of four million by early 1957. Ages of creative labour of the working people have made this beautiful and majestic city what it is today. Within its walls are gorgeous palaces, lakes and public parks. In its western outskirts are the well-known Summer Palace and the beautiful Western Hills. The whole city planning demonstrates the artistic and architectural accomplishment of the Chinese people.

Peking is also China's cultural centre as well as an important centre of its modern revolutionary movement. It played a pioneering role in the famous May the Fourth Movement<sup>1</sup> and December the Ninth Movement.<sup>2</sup> Here are the Palace Museum where China's rich cultural heritage is kept and the National Peking Library, the largest in the country. The China People's University, Peking University, Tsing Hua University, Peking Normal University, many other famous higher educational institutions and the Chinese Academy of Sciences are all located in Peking.

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<sup>1</sup> On May 4, 1919, students in Peking staged a great demonstration against the imperialist Versailles Peace Treaty. The movement soon spread to the whole country and became a nation-wide anti-imperialist and anti-feudal movement.

<sup>2</sup> On December 9, 1935, twenty thousand patriotic students in Peking, led by the Communist Party, demonstrated against the Kuomintang government for compromising with Japanese aggressors and demanded nation-wide resistance to Japan.

Peking has changed from a consumers' city into a producers' city. Since liberation, many factories have been built, many new industries established, such as the textile mills and the electronic tubes factory. Peking is becoming an industrial city as well as the political and cultural centre of New China.

**Other Cities.** Tientsin, capital of Hopei Province, has a population of 2,690,000. It is one of the country's main industrial and commercial cities. Tientsin has textile and flour mills, chemical and machine-building works. It is a clearing house for home products, as well as an important port through which China's exports and imports are handled.

Tsingtao, with its excellent harbour, is the third largest city in North China, and a favourite tourist resort. It is connected by rail with Tsinan, Shantung's capital.

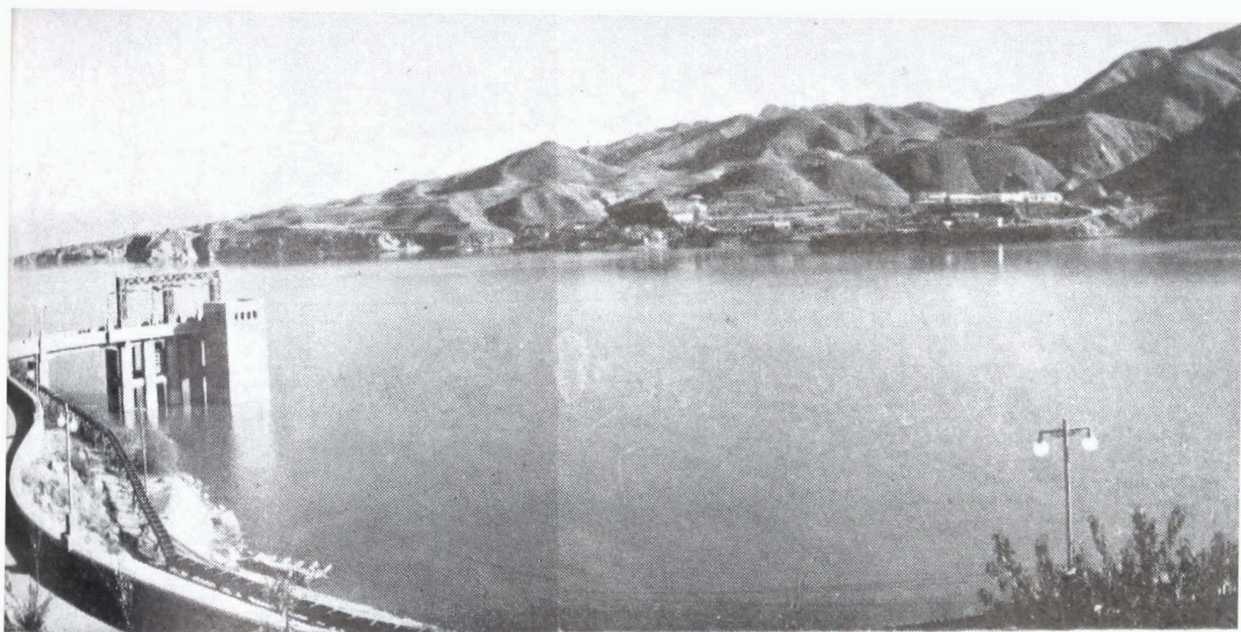
South of Tsinan on the railway line is Chufu, the birthplace of Confucius, great educator of ancient China. Confucius Temple, with its red walls and yellow tiles, is an attractive spot for tourists.

Taiyuan, Shansi's capital, has iron and steel, machine-building and chemical works. Tangshan in Hopei has coal-mines and iron and steel and building-material plants.

Shihchiachuang and Chengchow, which are located at railway intersections and near the cotton-producing centres, are new textile towns. Chengchow is the capital of Honan Province.

Other major cities are Paoting, Changchiakou and Tatung. The latter two are reached by the Peking-Paotow Railway. They border on the Inner Mongolian Plateau and are close to coal and iron mines, offering great possibilities for future development.

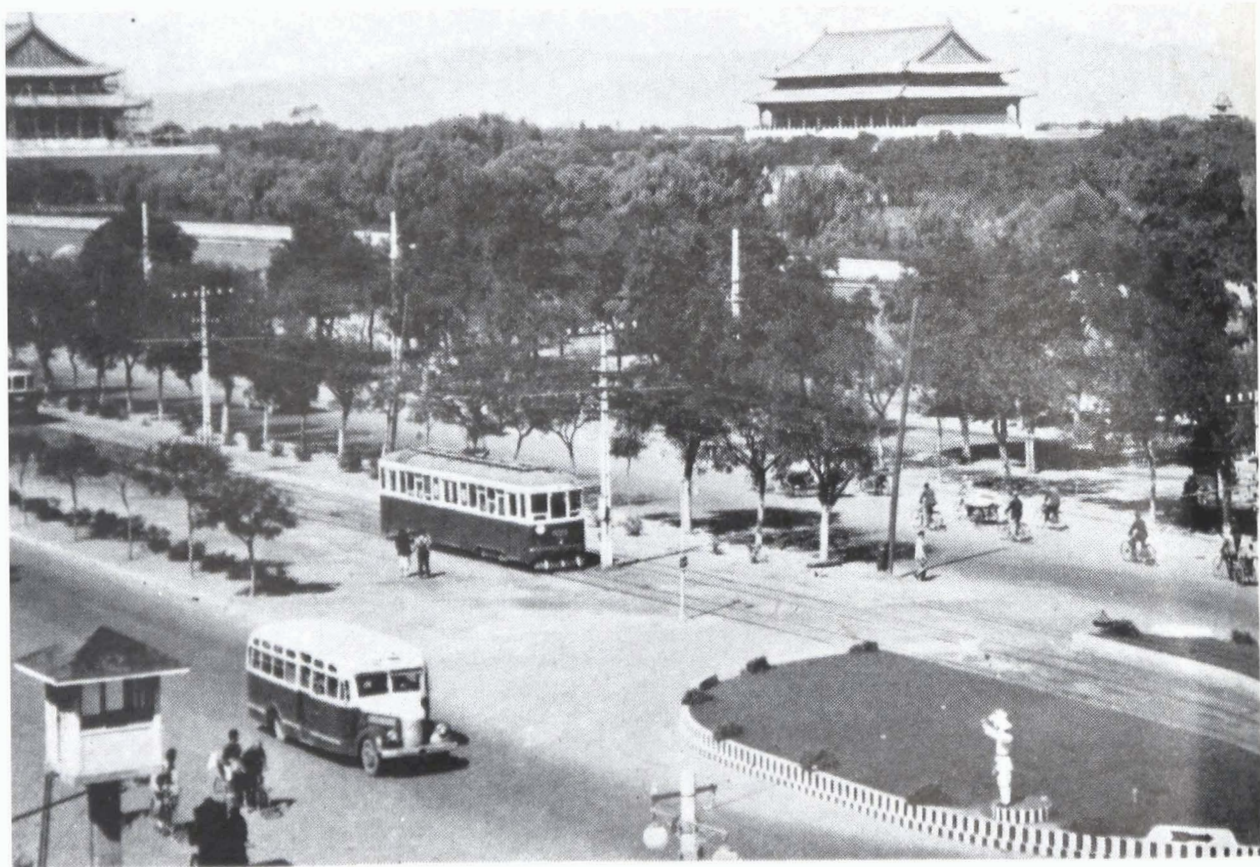




**Kuanting Reservoir on the Yungting River**

**Rich wheat harvest on the Yellow River Plain**





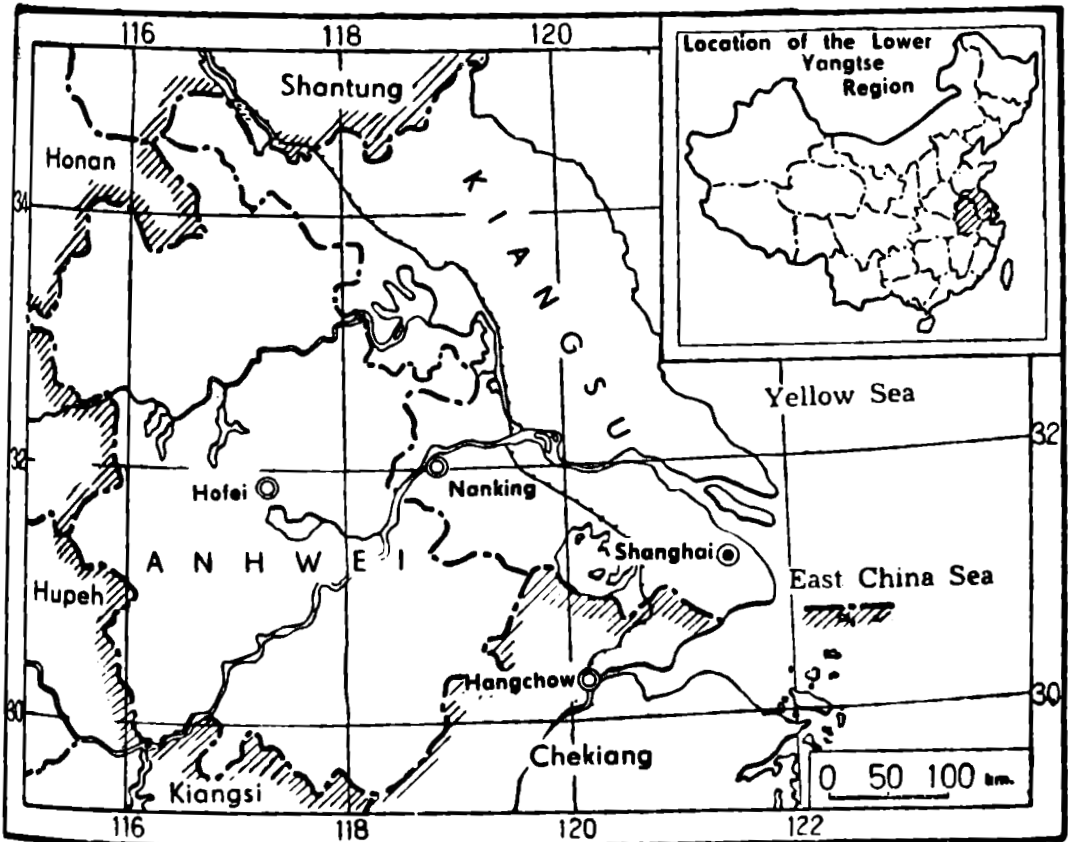
**Street scene, Peking**

## CHAPTER ELEVEN

# THE LOWER YANGTSE REGION

### Location and Physical Features

The Lower Yangtse Region embraces the provinces of Kiangsu and Anhwei and the city of Shanghai. With an area of 246,000 square kilometres, it is 2.4 per cent of the total area of the country.



**The Lower Yangtse Region, Administrative Divisions**

The Yellow Sea and the East China Sea wash its eastern shores, with Shanghai as roughly the middle point on the Chinese coastline. The Yangtse empties into the sea north of Shanghai.

Climate is warm and humid with clear-cut seasonal changes. Topographically, the greater part consists of plains with many lakes and rivers, apart from the Yangtse.

The Lower Yangtse Region may be divided into four parts:

**The Huai River Plain.** The plain in northern Kiangsu and northern Anhwei has been made by accumulation of silt from the Yellow and Huai rivers. But a part of the plain towards the north, through which the Tientsin-Pukow Railway runs, was once hilly. After long years of erosion, it has turned into an erosional plain. There are still many small hills abruptly rising along the railway south of Hsuehchow; they are hills not completely eroded. In landscape, the area north of the Huai resembles the lower reaches of the Yellow River while the area south of the Huai resembles the lower reaches of the Yangtse. The Huai now flows mainly into the Yangtse.

**The Lower Yangtse Valley.** The valley embraces the plain along the Yangtse within Anhwei Province and the Yangtse Delta in southern Kiangsu. The delta, made mainly of alluvium from the great river, lies between the old course of the Huai River to the north and the Hangchow Bay to the south and between Chinkiang to the west and the sea to the east.

Lakes and rivers abound — those in the lake Tai Hu basin occupy 15 per cent of the total area of the Lower Yangtse Region. Known as the "Water Country," this is where travellers meet a stream every quarter kilo-

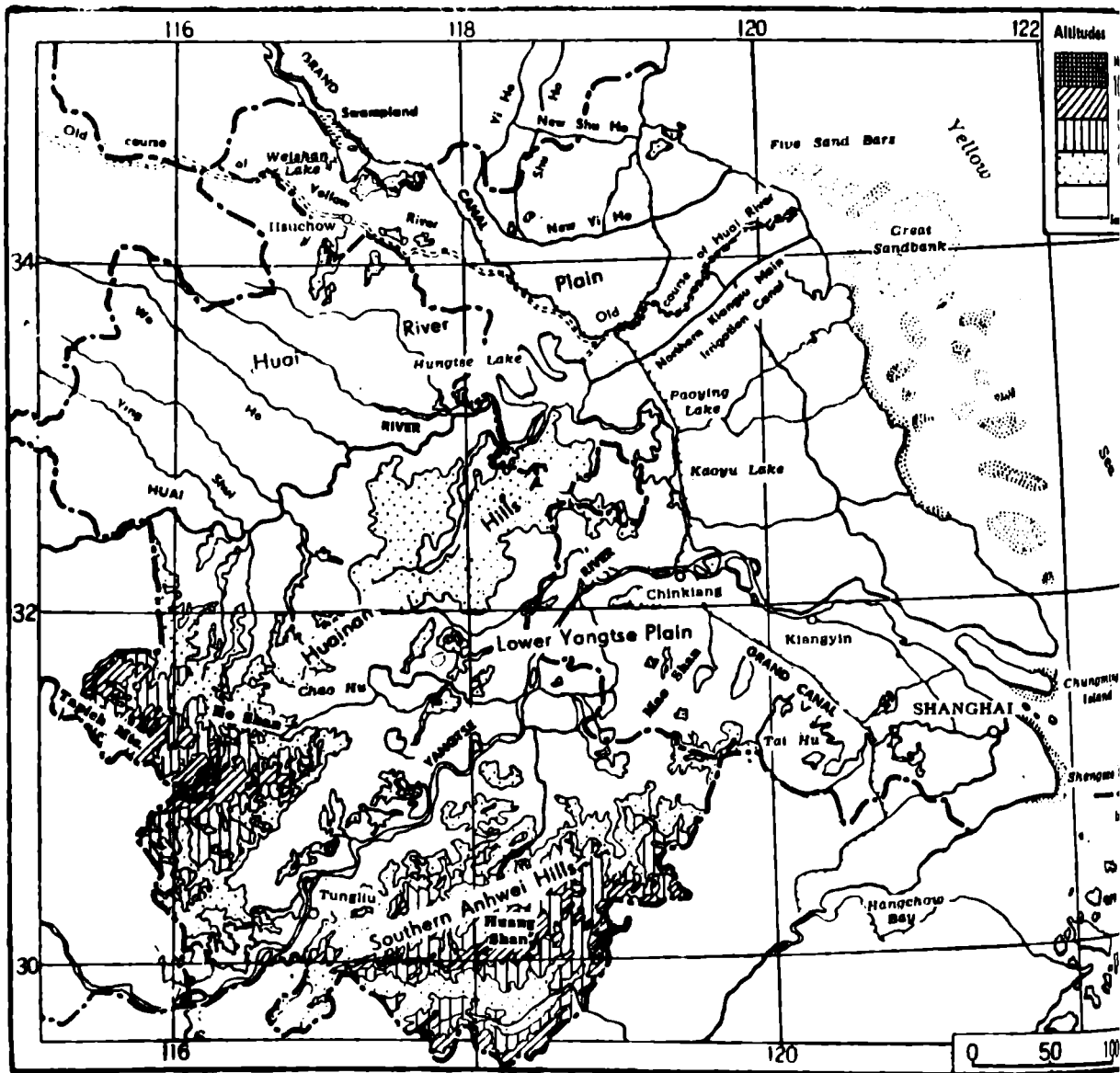
metre. The peasants use boats as often as their counterparts in the north use carts.

A characteristic, as of all great rivers, is the continuous building up of land seaward as the silt accumulates. It has been calculated that here the land extends to the sea at the average rate of 25 metres a year.

Research has revealed that five thousand years ago, the sea reached as far inland as Kiangyin, roughly midway between Shanghai and Nanking, and the Tai Hu was part of the East China Sea. The present small isolated hills in the Tai Hu basin were islands. One thousand years ago most of the site of the present city of Shanghai was under water and the Chungming Island at the mouth of the Yangtse was only a small sand bar.

**The Huainan Hills and the Southern Anhwei Hills.** The parts of Anhwei Province lying north and south of the Yangtse are hilly. The term Huainan Hills applies to the hills north of the Yangtse and south of the Huai River. In geological structure, the Huainan Hills are an eastward extension of the Tapiéh Mountains in the eastern section of the Chinling Range. The peaks of Huo Shan are the highest, rising to more than one thousand metres. Eastward of Huo Shan the terrain gradually descends to hills of two to five hundred metres. The slopes of most hills are terraced for crops or planted to tea.

The term Southern Anhwei Hills is given to hills south of the Yangtse within Anhwei Province. It extends towards the north-east as far as the Mao Shan in south-western Kiangsu. Most of the rivers in southern Anhwei have their sources here. Huang Shan, the highest mountain in the lower Yangtse valley, with its grotesque rocks and old pines, is noted for its scenery.



**Topography of the Lower Yangtse Region**

## Climate and Soil

The climate in this area is temperate and humid, with clear-cut seasonal differences. Average January temperature is always above zero. Being near to the sea, summer heat here is not as high and does not last as long as Szechuan along the Yangtse or the Yangtse's middle reaches. For example, average January temperature for Shanghai is 3.2°C, for Chungking 7.8°C, for Hankow 3.9° C. Average July temperature for Shanghai is 27.1° C, for Chungking 28.9° C, for Hankow 28.8°C.

In the area north of the Huai, the average January temperature is below zero and the Huai River is frozen for half a month; south of the Yangtse, January temperature is often above 2°C, and the rivers are seldom frozen. In summer, however, there is little difference between the two areas. The Huai basin is sometimes warmer because of its more typical continental character.

This region has annual rainfall above 750 mm. in most places, with heavy rains in summer though not as concentrated as the Lower Yellow River Region. In other seasons, it also rains. In June-July, especially in the lower Yangtse valley, it may rain for days on end. This is known as the period of "plum rains."

Rainfall decreases from south-east to north-west. For the banks of the Yangtse and southward, average annual precipitation is above 1,000 mm.; for the south of the Huai, 750 mm.; and for the north of the Huai, about 600 mm.

## Soils and Their Utilization

In the northern part, the Huai River plain has largely brown soil and, with not much rainfall and low underground water, is suitable for dry cultivation. Wheat, sorghum, maize, soya bean and peanuts are the staple crops.

In the area south of the Huai and north of the Yangtse, the yellowish brown soil creates a mixed zone of water and dry land on which rice and wheat are produced in great abundance. The alluvial soil on the seacoast is saline. The reclaimed, improved soil suits cotton-growing and Kiangsu's coastal area north of the Yangtse is one of China's cotton-producing areas.

The greater part of the alluvial plain south of the Yangtse has become paddy fields. Around lake Tai Hu, mulberry trees are plentiful. The Southern Anhwei Hills have, in some places, red loam soil. Rice grows in the river valleys, tea on hill slopes, broad-leaf and coniferous trees and bamboo in the mountains. The Huainan Hills have brown forest soil, and on the slopes are tea groves.

## Rivers and Their Utilization and Control

**A Network of Lakes and Rivers.** Over the whole Lower Yangtse Region spread hundreds of large lakes. Beautiful Tai Hu is the largest lake south of the Yangtse while the lakes Hungtse and Chao Hu are located north of the Yangtse. Prevention work since liberation has ended the flood menace in the lake area.

Apart from the three great waterways — the Yangtse, the Huai and the Grand Canal — the plains are criss-crossed by countless small canals and rivulets. Most of



the rivers are tributaries cut out from natural waterways, providing facilities for transport, irrigation and drainage. The river mud is used as fertilizer. In the water, fish, water chestnuts and lotus-roots are plentiful. Indeed, this is "a country of rice and fish" and as such the area is known.

**The Yangtse.** The Yangtse is a general receptacle for waters of the Tai Hu and Huai basins. Descending from its middle reaches, the volume of flow increases as the mighty river approaches its outlet. East of Anhwei, it becomes much greater and the slow current creates a number of river bends and sand bars. Further east from Kiangyin, the river is ten kilometres at its broadest point, looking like an inland sea. In transport and irrigation, the Yangtse renders great services.

**The Huai.** The Huai River in the northern part of this region once had its own outlet to the sea. With its source at the Tungpo Mountains in Honan, it used to flow eastward through Anhwei and northern Kiangsu and empty into the Yellow Sea. In 1194 the Yellow River once again burst its banks and flowed into the Huai. The silt it carried blocked the Huai's outlet to the sea. Thus, the waters of the Huai remained in the lowlands and formed the Hungtse Lake and then flowed into the Yangtse via the Grand Canal. This caused frequent floods in the northern parts of Kiangsu and Anhwei when there were heavy rains. The situation worsened in 1938 when the Kuomintang troops dynamited the south embankments of the Yellow River in Honan, whose water then poured into the Huai and deposited so much sediment that the river-bed of the Huai was elevated several metres.

After liberation, Chairman Mao Tse-tung issued a call that "the Huai must be harnessed!" The People's Gov-

ernment published a plan for permanently controlling the Huai. In the valleys of many tributaries on its upper course, several large reservoirs were to be built. In the lowlands along its middle reaches, detention lakes were to be dug and dams built to control flood. In its lower reaches, waterways entering the Yangtse were to be improved and a main irrigation canal for northern Kiangsu was to be cut. When the plan is completed, the Huai basin will not only be free from flood and drought but will yield untold advantages in irrigation, navigation and generation of electric power.

Since 1950 millions of people have engaged in this great struggle and made tremendous achievements. The Junhochi diversion-gate,<sup>1</sup> the Sanho Dam,<sup>2</sup> the Northern Kiangsu Main Irrigation Canal<sup>3</sup> and the Futseling Reservoir<sup>4</sup> have already been built. Although the work is not

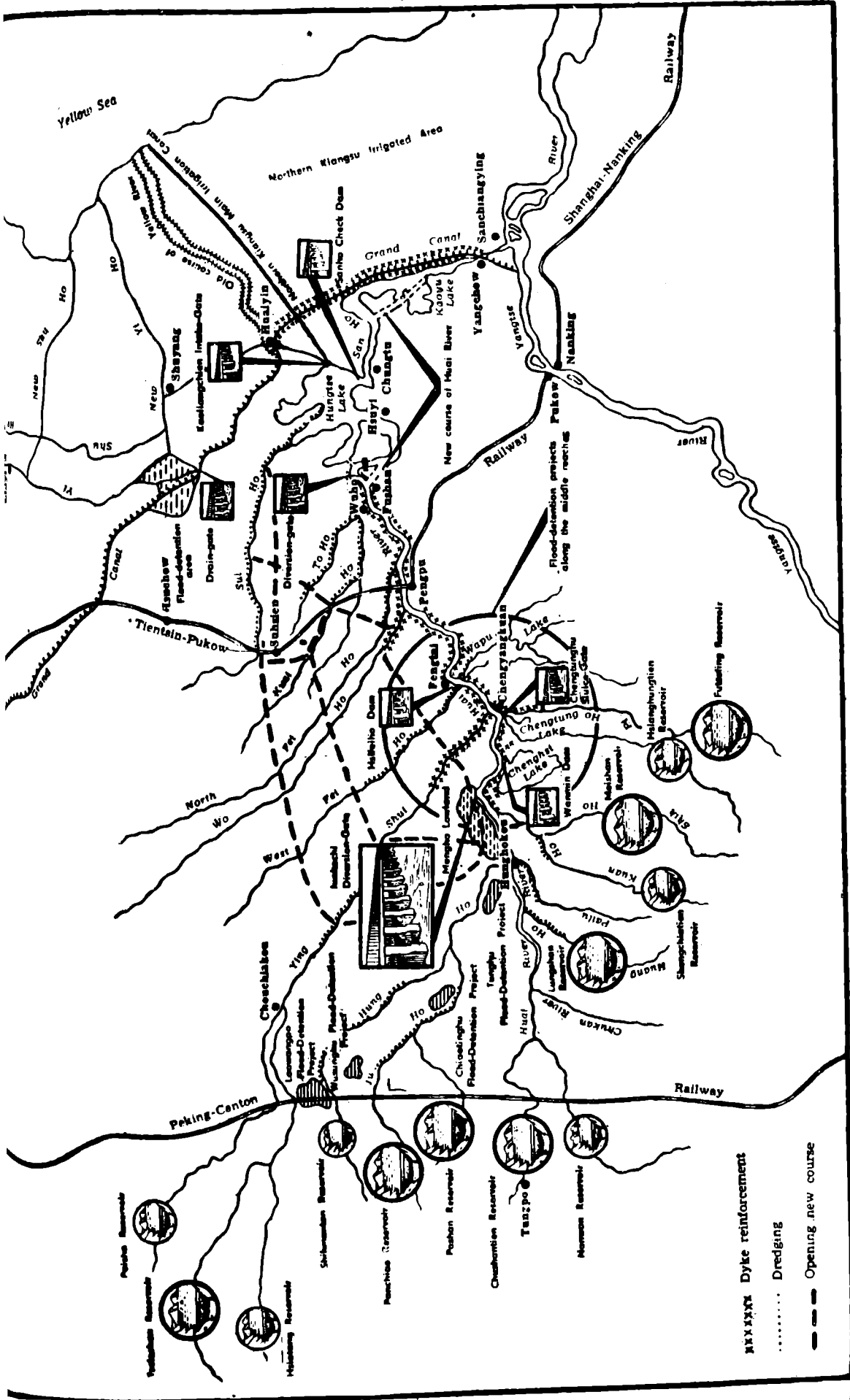
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<sup>1</sup> The Junhochi diversion-gate, constructed in the middle reaches of the Huai west of Chengyangkuan, is a modernized water conservancy project, which consists of three parts: 1. A fixed canal, 78 metres wide, open all the year round; 2. A check dam which controls the volume of water from the upper reaches; and 3. The intake gates which can be opened during the high-water season to let water flow into the Chenghsi Lake.

<sup>2</sup> The Sanho Dam, the largest on the Huai, located in Huaiyin County, Kiangsu, on the south-eastern shore of the Hungtse Lake, controls the water of that lake.

<sup>3</sup> The Northern Kiangsu Main Irrigation Canal, 170 kilometres long, extending from Kaoliangchien on the eastern shore of the Hungtse Lake eastward to Pientankang on the coast of the Yellow Sea, irrigates 1,070,000 hectares of land and draws a part of the Huai into the sea.

<sup>4</sup> The Futseling Reservoir is built on the upper reaches of the river Pi Ho, a Huai tributary, in the Tapiéh Mountains in Anhwei. The dam is of a hollow type with multiple arches, first of its kind in China.



**The Plan for Permanently Controlling the Huai River**

XXXXXX Dyke reinforcement  
 ..... Dredging  
 --- Opening new course

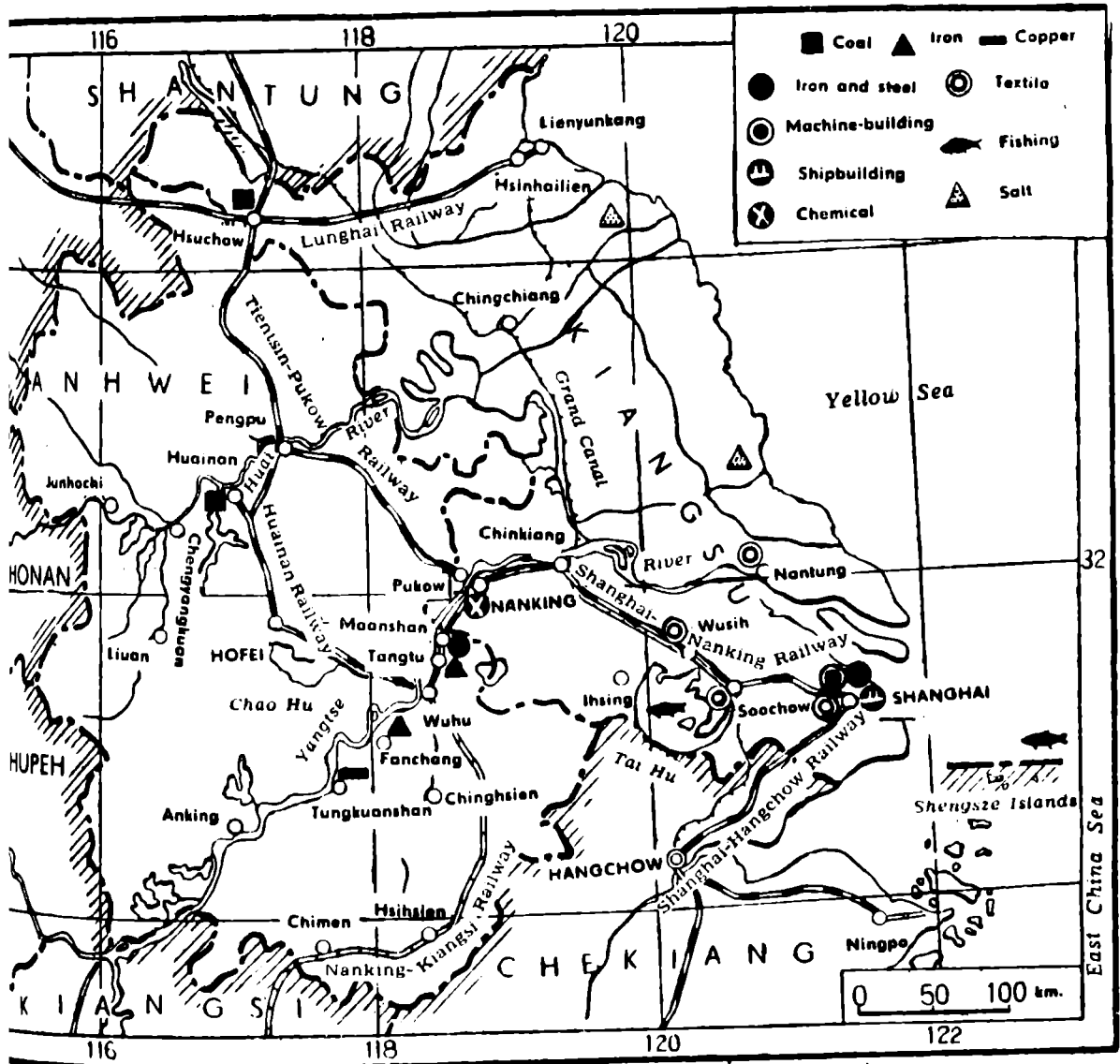
yet complete, the flood of the Huai has been, in the main, put under control. Harvests unknown for many years have been reaped in the Huai area.

## Inhabitants and Economic Development

**Population.** The Lower Yangtse Region has a population of 77,800,000, 13 per cent of China's total. It is the most densely populated region in the country — 310 people per square kilometre. The Yangtse Delta has more than 500 persons to each square kilometre, thus becoming one of the most densely populated areas in the world. In this delta area is Shanghai with a population exceeding 6,200,000 and there are more cities with more than 100,000 people than in any other region.

**Industry.** The Yangtse Delta, endowed with rich agricultural land, and raw materials and easy communications with the inland and foreign countries, had flourishing handicrafts a few hundred years ago. After the Opium War of 1840-1842, foreign influence penetrated China through Shanghai which became a centre of exploitation of the Chinese people. Foreign firms and banks were set up to handle the wealth extracted from the country and factories of light industry established. Up to liberation, the Yangtse Delta had the most of the country's light industry. More than one half of old China's textile industry was concentrated there.

Shanghai is China's biggest industrial centre, with fairly developed cotton textile and machine-building industries. There are also large thermo-electric power plant, shipyards, steel and other plants. Cotton mills are also concentrated at Wusih and Nantung. Soochow



**Distribution of Industries of the Lower Yangtse Region**

has a developed silk textile industry; Wuhu rice-processing; Pengpu fat and oil-making. Nanking has ammonium sulphate works. Of the handicrafts, Soochow is known for its embroidery and Ihsing for its pottery — both have a good domestic and foreign market.

Mining includes iron, coal and copper. The hills along the Yangtse produce rich iron ore, such as that in Taochung Mountain in Fanchang County and Maanshan in Tangtu County — both in Anhwei Province. The famous Maanshan Iron Works was suspended before liberation. Now, it has not only been restored but is producing much more than before, aiming at supplying the needs of steel-making in Shanghai. Of the coal-mines, Huainan is a large and the principal one. The coalfield is connected with the Yangtse by the Huainan Railway. Tungkuanshan in Tungling, Anhwei, has copper which is being mined.

**Agriculture.** With the exception of the mountain areas of Huang Shan and Huo Shan and the coastal sand beaches, all the land in this region has been brought under cultivation, which is equivalent to one half of the total space in the region. Dense population, numerous working hands and intensive farming (especially in the well irrigated Tai Hu basin) have resulted in higher per-mou yield.

The Tai Hu and Chao Hu basins are well known for rice-growing, while Wusih and Wuhu are rice-collecting centres. Silkworm growing is a popular side-occupation of the peasant households in the Tai Hu basin astride the Kiangsu-Chekiang border, which produces one half of the country's silk. Soochow and Wusih are silk-producing centres in Kiangsu Province. Wheat is a winter crop grown in the Huai River Plain and the lower

Yangtse valley. Kiangsu is one of the main cotton-growing regions in the country. Tea comes from the hilly areas. The Chimen red tea and Liuan green tea are nationally famous.

Proximity to the sea and a large number of lakes and rivers favour both marine and fresh-water fisheries. A state aquatic products company has been set up in Shanghai. Modern fishing boats and fish-curing equipment are used; they are steps preparing for further mechanization in the fishing industry. Fresh-water fishing is well developed in the Tai Hu, the Hungtse and other lakes and in the Yangtse and other rivers.

The sandy seacoast produces salt and the Huaipei salt fields are well known. Salt produced here is more than sufficient for this region and for the Middle Yangtse Region.

## Communications and Cities

**Communication by Water and Land.** Shanghai is the centre of communications by water and land. Shipping on the Yangtse begins from Shanghai and, through Nanking and Wuhan, reaches faraway Szechuan. Coastwise shipping connects Shanghai with Tientsin, Tsingtao and Talien in the north and Amoy and Canton in the south. Railway lines connect Shanghai with Peking in the north and with Hangchow in the south. If a passenger wishes to go to Sian and Lanchow from Shanghai, he can take train to Hsuchow on the Tientsin-Pukow Railway and transfer to the Lunghai line westward.

Inland navigation serves a large part of this area. The Yangtse, the Huai, the rivers in the Tai Hu and Chao Hu basins, the Grand Canal and many other canals form

a network of river traffic between the town and the countryside and between the rural areas.

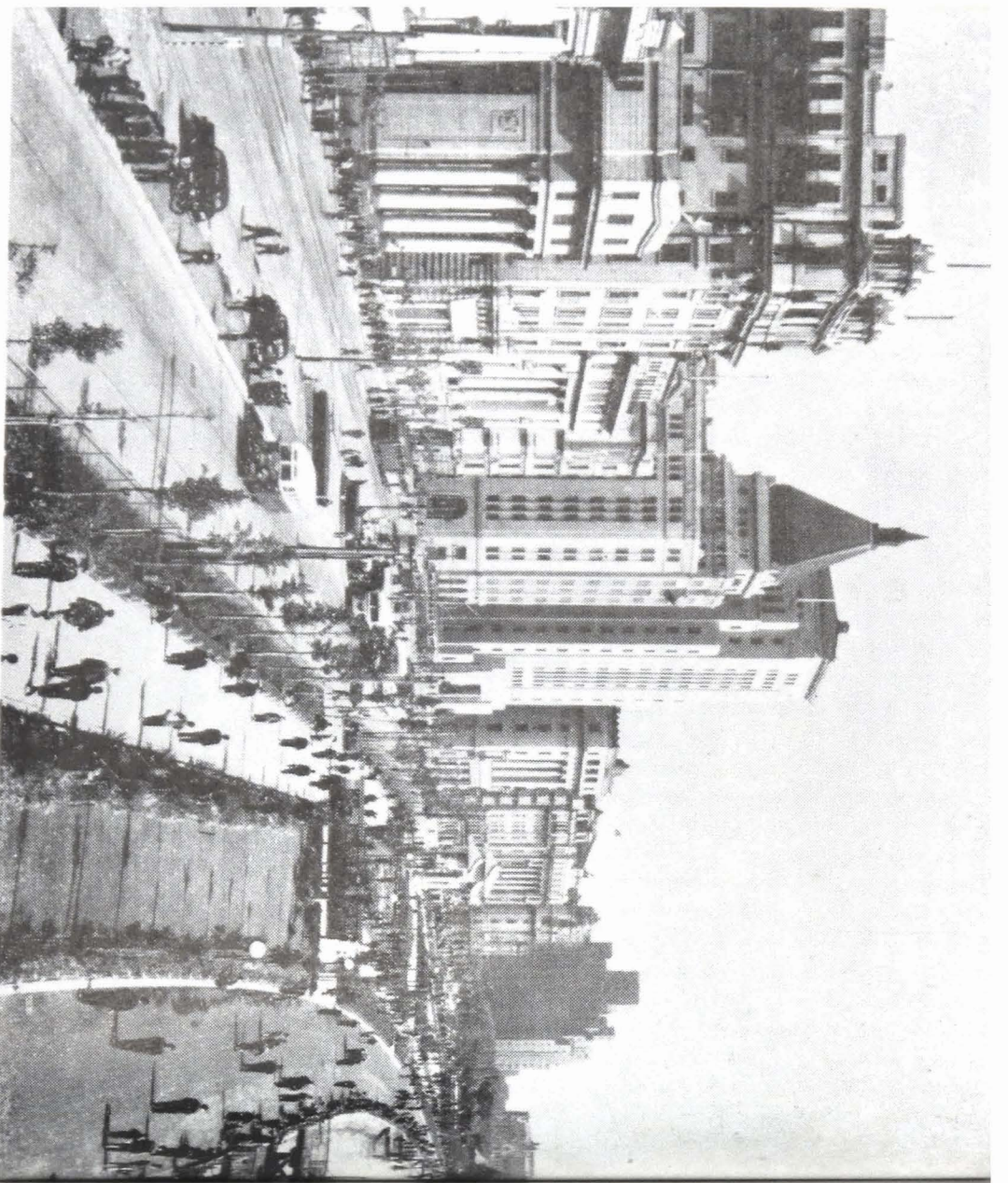
**Shanghai.** Situated on the south bank of the Yangtze at the confluence of the Whangpoo River and Soochow Creek, Shanghai is China's largest industrial, commercial and foreign-trade centre. In 1955 Shanghai's industrial output was valued at one-fifth of the nation's total. It has more than one-third of the total number of spindles in the country and one-third of metal-cutting machine tools and forging and pressing equipment. The city has varied industries; the most developed are textile, shipbuilding, machine-building, electric power, chemical, cigarette and articles of daily use. It is where China's industrial population is most concentrated. Of the 6,200,000 inhabitants, one million are workers.

Shanghai has a glorious history. The Chinese Communist Party was born here on July 1, 1921. Led by the Party, the Shanghai workers and students carried out many a brave struggle against foreign imperialists and the reactionaries at home. Before liberation, foreign imperialists dominated this city, exploiting the Chinese people. Shanghai's foreign trade was one half of the country's total. Since liberation, Shanghai has become a new city in which the people are their own masters, and the factories, banks and customs houses have become their own property, serving the nation's production. Industrial output increased rapidly; the figure for 1956 was 3.2 times that of 1949. Foreign trade through this port also expanded. The incoming and outgoing amount for 1956 was two and half times as much as that of 1946—the highest year in history. Mercantile ships of over seventy countries and areas call at Shanghai.

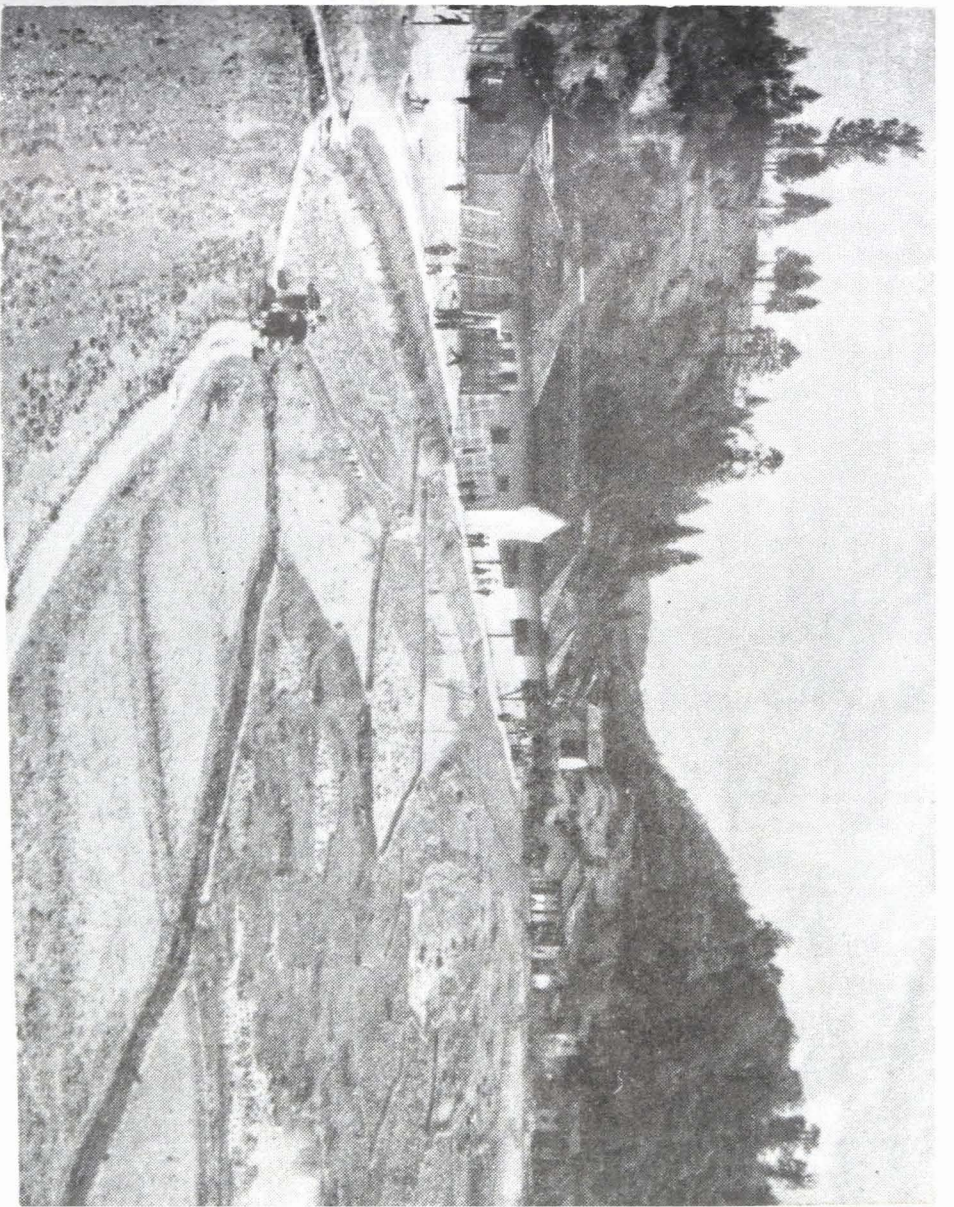




**Mausoleum of Dr. Sun Yat-sen in Nanking**

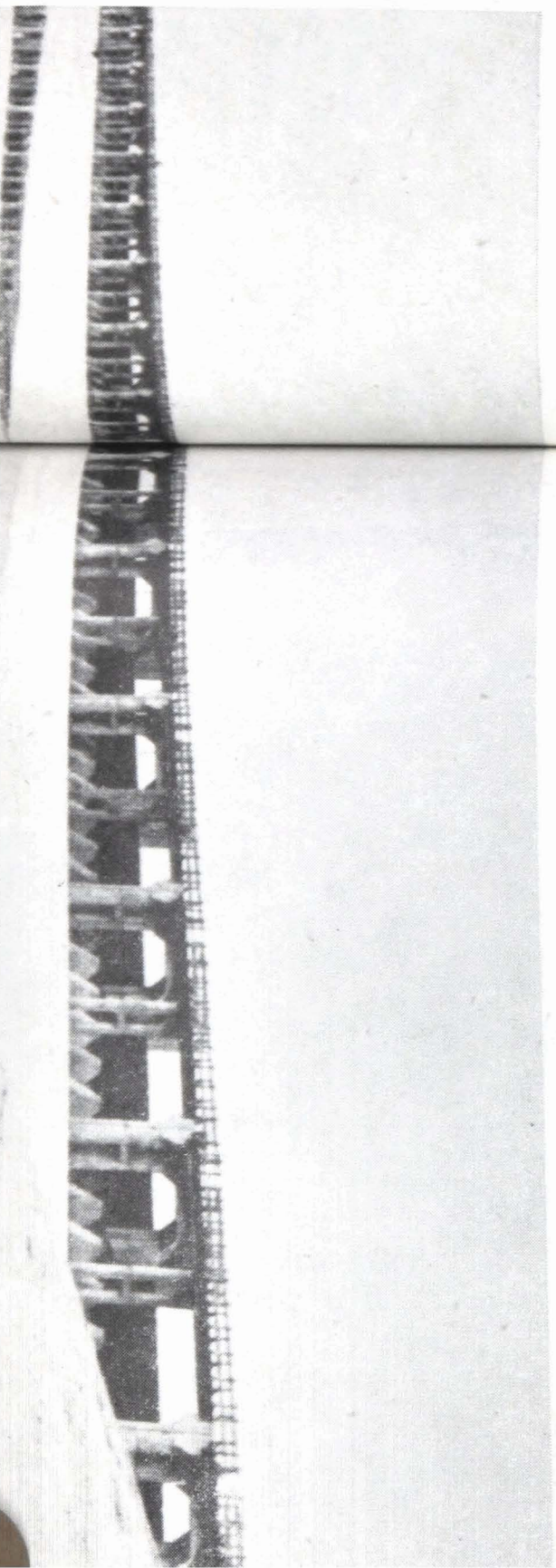


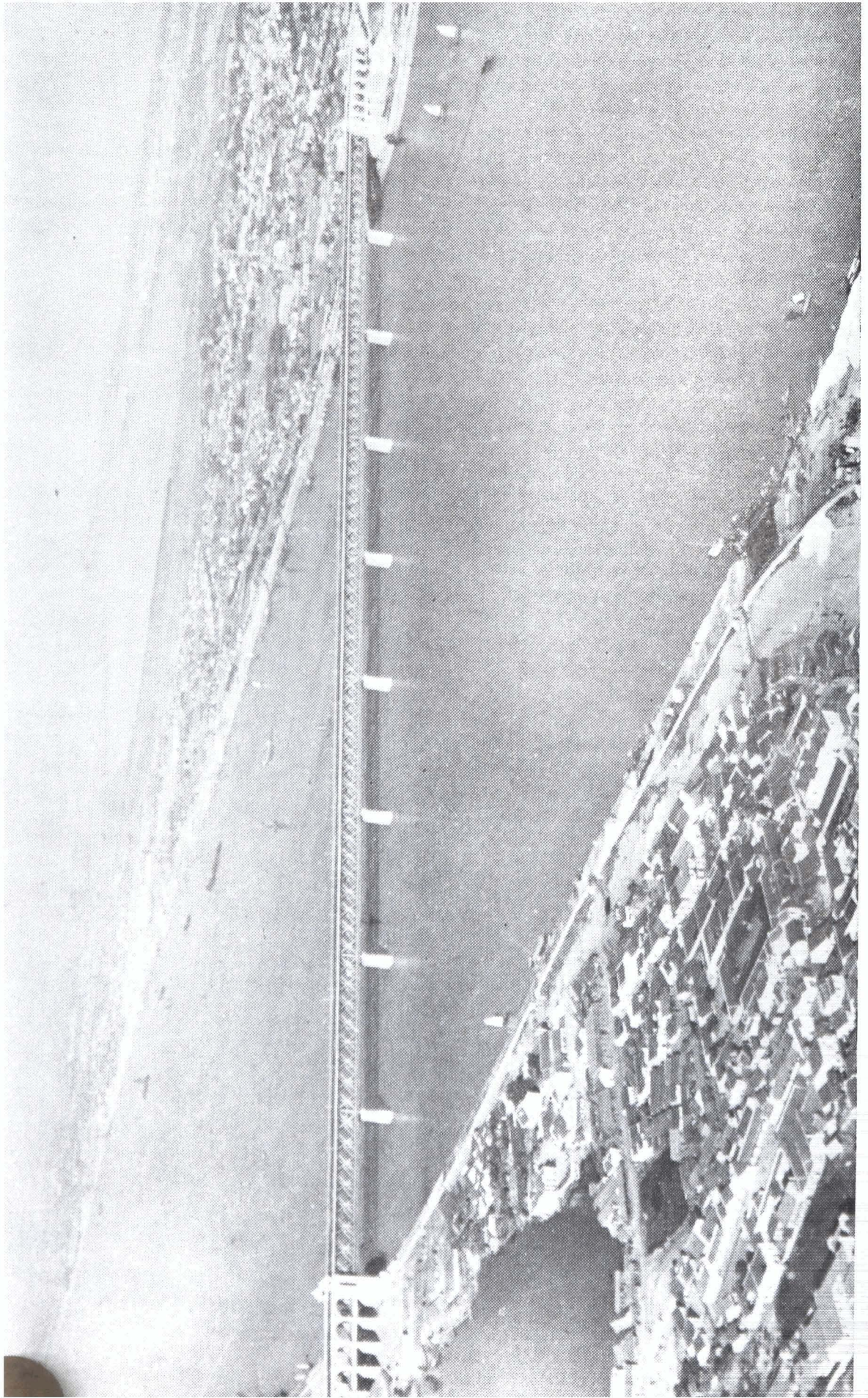
Shanghai waterfront



An intermontane plain in the Chingkiang Mountains, Kiangsi Province

Intake gate of the Chingkiang Flood Detention Project in the middle section of the Yangtse





The new Yangtze bridge at Wuhan

**Nanking.** Nanking, second largest city in this region, is on the south bank of the Yangtse in western Kiangsu at the intersection of three railway lines — Shanghai-Nanking, Tientsin-Pukow and Nanking-Wuhu. It has a population of 1,090,000 and is the capital of Kiangsu Province. In Chinese history, Nanking was one of the famous capitals of the nation. Its hills and water make picturesque scenery. The mountain Chung Shan, Dr. Sun Yat-sen's Mausoleum, and the Hsuanwu Lake are well-known places of interest.

Between Shanghai and Nanking is the city of Wusih, economic centre of the Tai Hu basin.

North of Nanking at the junction of the Tientsin-Pukow and Lunghai railways is the historically strategic city of Hsuchow. It was near here that between November 1948 and January 1949 the Battle of Huai Hai was fought by the People's Liberation Army. In this famous battle, the PLA utterly defeated Chiang Kai-shek's 550,000 picked troops, shaking his regime to its foundations and finally driving him off the mainland. Hsuchow is connected by rail with Lienyunkang, an important port in northern Kiangsu, which is also reached by ships from Shanghai, Tsingtao and other ports.

In Anhwei Province, Hofei, its capital, is a rice centre for the Chao Hu basin. The Huainan Railway passes here. Wuhu, another Anhwei city on the south bank of the Yangtse, has easy communication by the river, and by rail with Nanking.

## CHAPTER TWELVE

# THE MIDDLE YANGTSE REGION

### Location and Physical Features

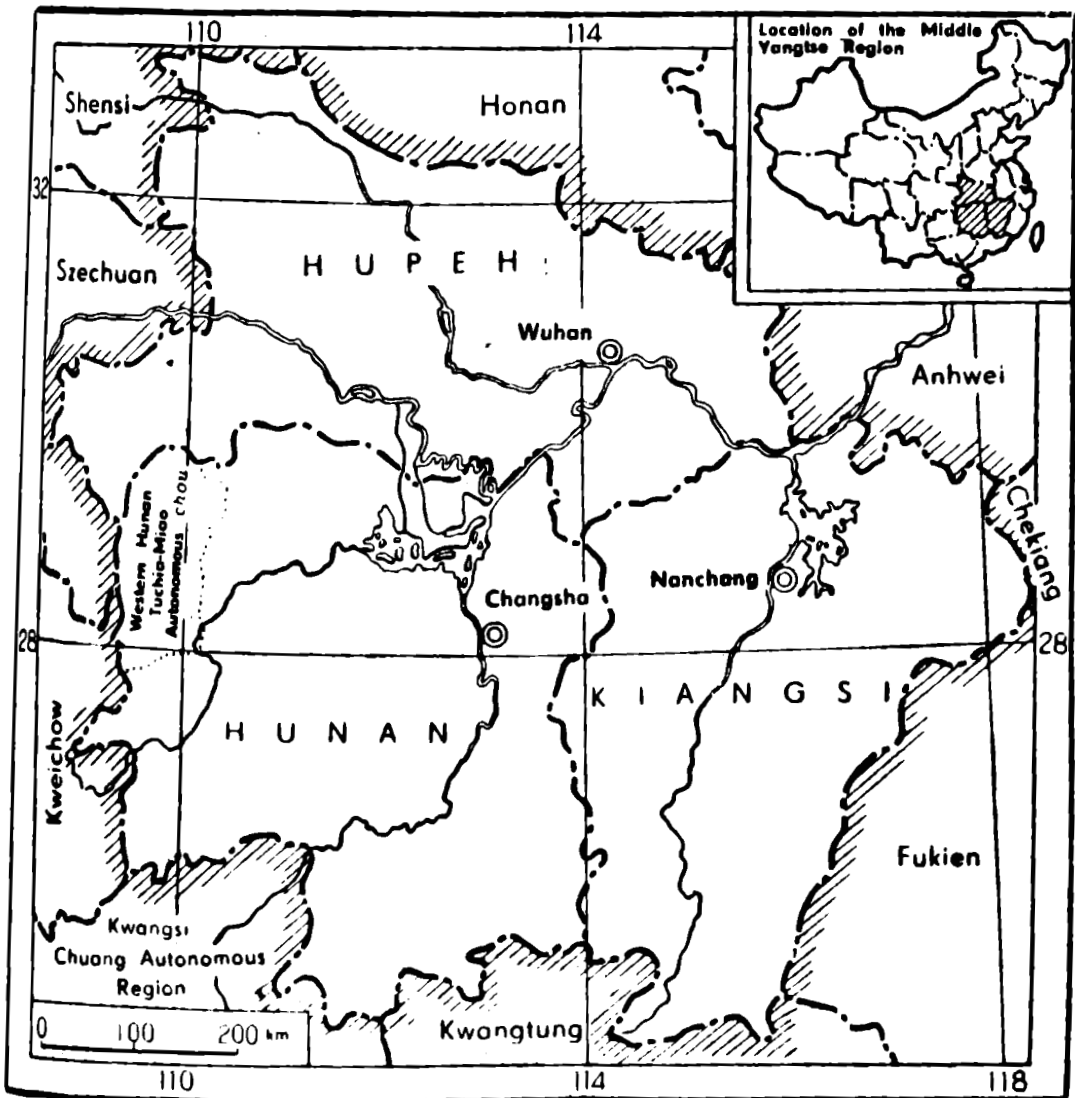
The Middle Yangtse Region includes the three provinces of Hupeh, Hunan and Kiangsi, with an area of 560,000 square kilometres which is 6 per cent of the country's territory, and more than double the Lower Yangtse Region.

The Middle Yangtse Region occupies a central position between the lower reaches of the Yellow River and the Pearl River basin and between the lower reaches of the Yangtse and Szechuan and Yunnan-Kweichow regions. Wuhan is almost equidistant from Shanghai to the east, Chengtu to the west, Peking to the north and Canton to the south. The Yangtse is a great east-west waterway, while the Peking-Canton Railway is the direct north-south trunk line. These make the Middle Yangtse Region an important land and water communication centre.

Surrounded by mountains, the land descends towards the centre of the region which is traversed by the Yangtse, with the Tungting and Poyang lakes as two pockets. A broad plain extends along the river and lake shores. Topographically the region is a great basin, consisting of three areas:

### The Western Hupeh Mountain Area and Tapiéh Hills.

The mountain area in western Hupeh rises to about one thousand metres. The principal part is the Wu Shan. North-east of the Wu Shan are the Ching Shan and Tahung Mountains between which is the Han Shui valley, an important artery to Shensi Province. Further east from Tahung Mountains are the Tapiéh Hills on the border of Honan, Anhwei and Hupeh provinces, about 500



The Middle Yangtse Region, Administrative Divisions

metres high, dividing the Yangtse from the Huai River. In geological structure the Tapiéh Hills are an eastern extension of the Chinling Range.

**The Middle Yangtse Plain.** Flowing out of the Three Gorges, the Yangtse descends to the plain. This vast plain—the Lianghu Plain (Hupeh-Hunan Plain)—covers central Hupeh and northern Hunan, including lakes of all shapes, and many meandering rivers. In ancient times, here was a huge lake called Yunmengtse. As silt was carried down from the Yangtse and its tributaries and deposited in the lake, its area steadily decreased and developed into a number of small lakes. The present Tungting Lake is the principal remaining part of the huge ancient lake.

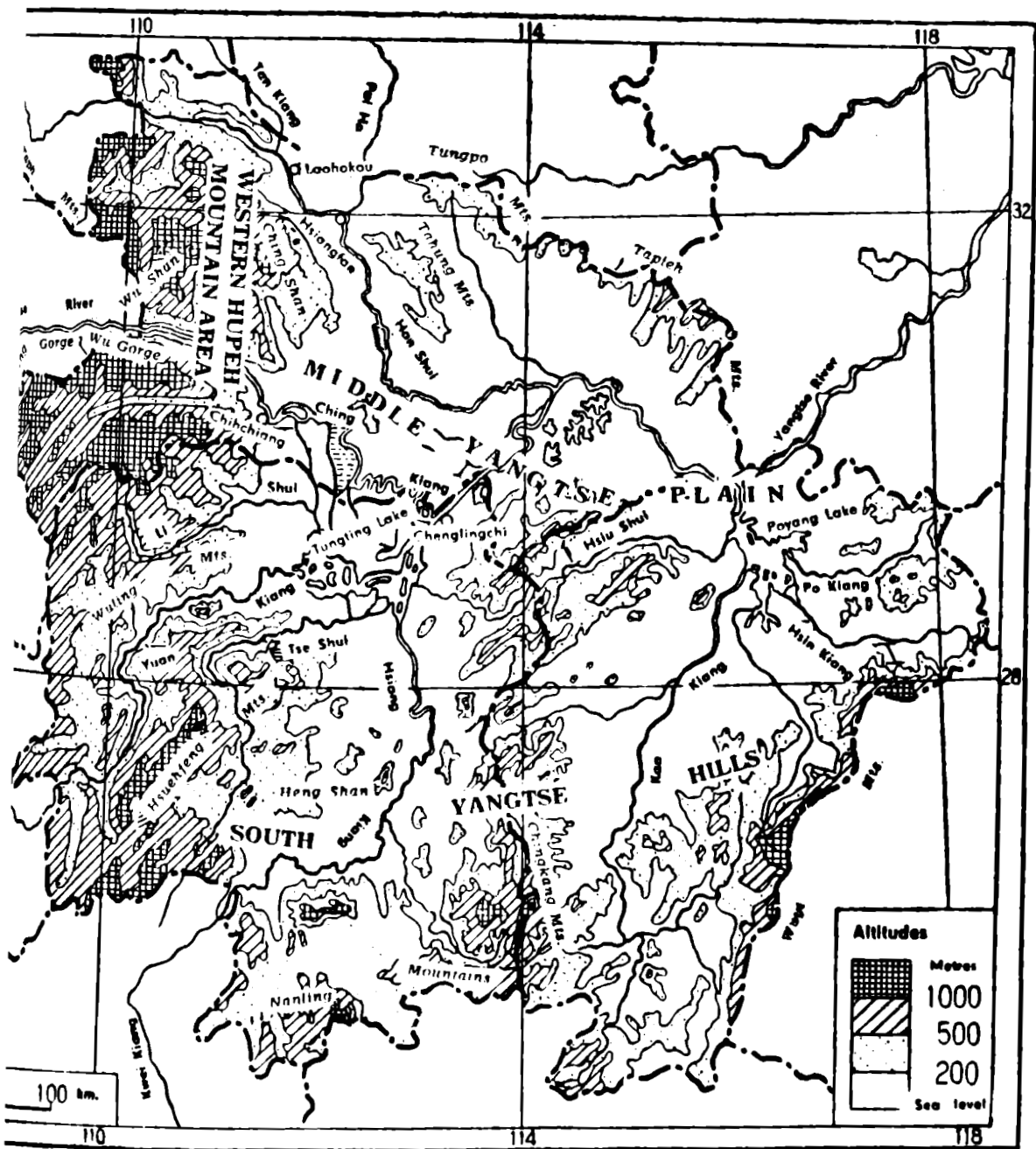
In northern Kiangsi Province is another lake basin, the Poyang Plain, which lies around the Poyang Lake.

Generally speaking, the Middle Yangtse Plain is level, mostly below 200 metres and a large part below 50 metres. Rich soil and good irrigation make it one of the main agricultural areas in the country.

**The South Yangtse Hills.** South of the Middle Yangtse Plain are numerous hills, collectively known as the South Yangtse Hills which surround the two great lakes—the Tungting and the Poyang.

Nanling, the main range of the South Yangtse Hills, runs west-east along the borders of Kwangsi, Kwangtung, Hunan and Kiangsi, forming the dividing ridge between the Yangtse and Pearl rivers.

Many other ranges run southwest-northeast, including the Hsuehfeng Mountains in western Hunan and the Wuyi Mountains in eastern Kiangsi. Between Hunan and Kiangsi running north-south are four or five larger ranges. Broad valleys divide the mountains, forming



**Topography of the Middle Yangtze Region**



east-west communication lines. The Ching kang Mountain,<sup>1</sup> famous in revolutionary history, is situated here, on the Kiangsi-Hunan border.

In this area are two well-known beauty spots — the Lu Shan in northern Kiangsi and the Heng Shan in central Hunan.

## Climate, Vegetation and Soils

Surrounded by mountains, the Middle Yangtse Region has a hot summer lasting generally four months and, in the southern parts of Kiangsi and Hunan, more than five months. When spring comes to North China, it is already summer here. In the mountain area, summer temperature is lower than that on the plain. Lu Shan was formerly a summer resort for the privileged few, but now it is a holiday place for the working people.

Winter in the northern and central parts of this area is cold. The southern part has a sub-tropical climate and practically no winter.

The region enjoys plentiful rainfall. Continuous rains and high humidity prevail during May and June, the season when the rice fields need water. Average annual rainfall in the plains is mostly about 1,200 mm., while in the hilly south-eastern part, more than 1,500 mm. This

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<sup>1</sup> After the defeat of the revolution in the First Revolutionary Civil War (1925-27), Mao Tse-tung led the Workers' and Peasants' Revolutionary Army into the Ching kang Mountain. He arrived there in October 1927, and set up a revolutionary base. Later Chu Teh joined him with his forces and this base gradually grew into the Central Soviet Area.

is one of the areas in the country where rainfall is relatively heavy.

Here are found mixed forests of evergreen and summer-green. Very few natural forests have been preserved with the exception of a small part in the mountains in western Hupeh and the South Yangtse Hills. Trees of economic value consist mainly of tea, tung, camphor, bamboo, pine — largely afforestation growths.

The hilly lands of Kiangsi and Hunan have largely red and yellow soils. Plentiful rains wash off the mineral contents (calcium, potassium, etc.) and humus in the soil, and wanton destruction of the forests in the past has deprived the soil of protection.

After liberation, institutes of agricultural research, after summing up the experience of the local peasants and carrying out various experiments, believe that if organic fertilizer is used, the technique of spreading fertilizer improved, the double-cropping area increased, washing off by spring flood prevented, and multiple economy combining agriculture, forestry and animal husbandry developed, then the local red soil can be used to good advantage.

Soil in the Middle Yangtse Plain is alluvial. It is used by the peasants to grow rice, wheat and cotton.

## Utilization and Control of Lakes and Rivers

**The Yangtse and Its Tributaries.** The Yangtse flows through the middle part of this region, with its tributaries emptying into it from the higher lands in the north and south. It is a complete drainage system.

From Szechuan, the Yangtse enters Hupeh cutting through imposing mountains and forming magnificent gorges, the most famous of which are the lengthy and precipitous Yangtse Gorges. Here it cuts into the mountains and its bed becomes narrow. The swift and violent current is a great source of water power.

Out of the gorges, the river meanders on flat lands in the Middle Yangtse Plain, forming many bow-shaped lakes, particularly near Chienli County, Hupeh. Between Ichang and Hankow, the distance on a straight line is 300 kilometres, but the winding water course is 670 kilometres. When water is restrained to flow in a twisting course, this causes frequent changes in river-bed, easily resulting in flood.

The Han Shui is the Yangtse's northern tributary. This large river flows into the Yangtse at Wuhan. With its upper reaches in southern Shensi, it begins to wind its course on the plain below Hsiangfan, very much like the Yangtse. Before liberation, flood often occurred in the Han Shui's lower reaches. After liberation, the Ministry of Water Conservancy constructed a flood detention basin at Tuchiatai in its lower reaches and a plan for permanent control and use of the Han Shui is being worked out.

On the south bank of the Yangtse, the Tungting Lake in Hunan and the Poyang Lake in Kiangsi join the Yangtse. The Tungting is fed by four rivers—the Hsiang Kiang, the Yuan Kiang, the Tse Kiang and the Li Shui. The former two are more important. The Hsiang Kiang traverses longitudinally the whole Hunan Province. It joins the Kwei Kiang in Kwangsi in its upper reaches, thus becoming the only river linking the Yangtse basin with the Pearl River basin. The Yuan

Kiang has its source in eastern Kweichow and is an important waterway connecting Hunan and Kweichow. These four rivers, together with the Tungting Lake, form a complete network of inland navigation in the province of Hunan.

The Poyang Lake is China's largest fresh-water lake. It is shaped like a gourd, and is also fed by four rivers—the Po Kiang, the Hsin Kiang, the Kan Kiang and the Hsiu Shui, all navigable within Kiangsi. This lake serves as a reservoir in Kiangsi, with plenty of water in summer and shallow in winter.

**Combatting Flood Menace Along the Yangtse.** Floods in the middle Yangtse were frequent in the past. The Yangtse carries less silt than the Yellow River. But under the old regimes, the Chingkiang section (the section of the middle Yangtse between Chihchiang County in Hupeh Province and Chenglingchi in Hunan Province), the shores of the Tungting Lake and the lower reaches of the Han Shui were frequently flooded, causing great damage to the vast plain of Hupeh and Hunan. The Tungting and many other lakes on the Yangtse's north bank were originally natural reservoirs regulating the waters of the Yangtse. But they were gradually reduced in size by silt accumulation and, worse still, by the greediness of the warlords and landlords who grabbed land by building dykes or embankments along the lakes; some of the channels linking the lakes and the Yangtse were blocked. Consequently, the lakes lost to a great extent their role as regulators. The maximum flow of the Yangtse near Shasi is 50,000 cubic metres per second, but the valley there can only take 41,000. The roaring current was held only by a former ramshackle Chingkiang Dyke along the north bank of the Yangtse.

In high-water season, the river rises more than 10 metres above the land outside the dyke. In 1931 the flooded area here extended to 94,000 square kilometres, more than one-quarter of the combined area of Hupeh and Hunan.

After liberation the People's Government undertook to end the flood danger to the plain of Hupeh and Hunan. Of a series of water conservancy works, the largest was the Chingkiang flood detention project. The major part of this project was the construction of a flood detention basin located south of Kiangling County between the Chingkiang section of the Yangtse and the Hutu River. With an area of 920 square kilometres and capable of holding 5,500 million cubic metres of water (or one-fifth of the largest flood volume), this basin greatly reduces flood danger.

## Inhabitants and Economic Development

**Inhabitants.** The Middle Yangtse Region has a population of 77,790,000. The plains along the Yangtse are densely populated, averaging 250 persons per square kilometre. The remote mountains and the hilly lands are sparsely inhabited, averaging 50 persons per square kilometre.

In western and south-western Hunan live people of national minorities — the Tus, Miaos, Yaos and Tuchias. Oppressed under the old regime, they retreated to the mountains where they led a miserable existence. Liberation brought them freedom and equality. A Miao-Tuchia autonomous *chou* has been set up in western Hunan.

Land reform, water conservancy work, opening of state trading companies and schools are bringing them prosperity and happiness.

The region is one of China's greatest granaries. Rice production ranks first among all the regions in the country. In recent years, per unit area yield has been greatly raised as a result of water conservancy work, increase of fertilizer, improvement of seed and changing single cropping into double cropping. In 1958 in Hsiaokan County, Hupeh Province, the average per-*mou* yield of early rice reached 1,755 catties.

This region is more than self-sufficient in rice. It supplies other provinces with large quantities every year. Rich produce has confirmed an old saying: "When Hupeh, Hunan and Kwangtung reap a good harvest, it is enough to feed the whole country!"

Industrial crops include cotton, ramie, tea and tung oil. Cotton grows mainly in the Middle Yangtse Plain and the valley of the Han Shui, with central Hupeh, one of China's chief cotton-producing centres, yielding the largest amount. Ramie, which is used in China to make grass-cloth, grows in central Kiangsi and eastern Hunan.

The South Yangtse Hills are one of the main tea-growing places in the country. South-eastern Hupeh, central Hunan and the valley of the Hsiu Shui in Kiangsi are important tea-producers. Tung trees are mainly distributed in the valley of the Yuan Kiang in Hunan.

Fir is an important construction timber produced abundantly in the hills. Along the Kan Kiang, the Hsiang Kiang and the Yuan Kiang, a continuous stream of timber rafts flows from the nearby hills down through the Poyang and Tungting lakes into the Yangtse.

**Mining.** This region is rich in mineral resources, of which the more important are non-ferrous metals. Most of China's antimony and tungsten is found here. Antimony is chiefly located in the Tse Shui valley in Hunan, the largest mine being at Hsinhua County. Tungsten is found mainly in southern Kiangsi and southern Hunan, the largest amount being produced in Tayu County, Kiangsi. China's largest lead-zinc mine is located in Shuikoushan, Changning County, Hunan.

The rich coal, iron and manganese mines, combined with convenient Yangtse shipping, provide favourable conditions for the development of iron and steel industry. Back in 1908, mining and metallurgical industries were begun at Tayeh and Huangshih. But the mines and the works, which had been first exploited by the Japanese imperialists and later neglected and wrecked by the Kuomintang government, were left at a standstill when liberation came. Then they were restored. Recently, geological prospecting teams discovered new iron deposits around the old mines at Tayeh. Tayeh will supply adequate raw materials to the new great steel base near Wuhan now under construction. Also at Changyang and Patung in western Hupeh, large iron deposits have been discovered, ample for the building of another iron and steel base there.

Coal is mainly produced in Pinghsiang, Kiangsi, and Leiyang, Hunan. The neighbourhood of Tayeh also has coal. Manganese is mainly found in Hsiangtan, Hunan. Yingcheng in Hupeh ranks first in the country's production of gypsum.

**Handicrafts.** Chingtehchen, China's porcelain centre in Kiangsi, has more than a thousand years' history. Each of the feudal emperors after the Sung dynasty had





his own "imperial kiln" which made all kinds of beautiful porcelain to ornament the imperial palaces. Since the Manchu dynasty, chinaware produced here has been exported and today it is still an important article in China's foreign trade.

Grass-cloth linen, a well-known handicraft, is made in Wantsai, Kiangsi, and Liuyang, Hunan. Embroidery of Changsha is another product of artistic handiwork.

The region also has a well-developed light industry, including textile and flour mills, with Wuhan as its centre.

## Communications and Cities

**Artery of Land and Water Communications.** Wuhan is open all the year round to large ocean-going steamers. Small steamers sail upriver on the Yangtse to Ipin, Szechuan, and can navigate the middle and lower reaches of the large tributaries, such as the Han Shui, the Hsiang Kiang and the Kan Kiang.

The Yangtse is the region's great east-west waterway and, for north-south communication, two rail lines—Peking-Canton and Hunan-Kwangsi—have been built. The Chekiang-Kiangsi line joins these two provinces and stretches to Hunan, and is an important connecting link between the coastal and interior provinces. The great Fukien-Yunnan Railway now under construction will cut across this region from east to west. Starting from Chuanchow on the seacoast, the line will pass through Juichin on the Fukien-Kiangsi border, and from Kanchow it will turn north-westward and join the Chekiang-Kiangsi Railway at Chuchow in Hunan Province. Then it will run on westward into Kweichow.

**Cities.** Most of the cities in this region are river ports. Hengyang on the Hsiang Kiang is the economic centre of southern Hunan. Kanchow on the Kan Kiang is the economic centre of southern Kiangsi. Hsiangtan, the shipping centre on the middle reaches of the Hsiang Kiang, is a newly-risen industrial city. Shaoshanchung of Hsiangtan County is the hometown of Chairman Mao Tse-tung. Chingkiang is a shipping centre on the middle reaches of the Kan Kiang. Changsha, capital of Hunan, is the centre of the plain on the lower reaches of the Hsiang Kiang. Nanchang, capital of Kiangsi, where the famous Nanchang Uprising took place on August 1, 1927, is the centre of the plain on the lower reaches of the Kan Kiang. In Changsha and Nanchang textile industry is well developed. Yuehyang at the mouth of the Tungting Lake is the gateway of Hunan's inland shipping. Kiukiang, west of the mouth of the Poyang Lake, on the southern bank of the Yangtse, is the gateway to Kiangsi. Juichin County, in south-eastern Kiangsi bordering Fukien, is important in China's revolutionary history. Here was established the Chinese Central Soviet Government during the Second Revolutionary Civil War (1927-37).

Major cities of Hupeh are also river ports. Hsiangfan is on the middle reaches of the Han Shui, and Ichang, Shasi, Wuhan and Huangshih are along the Yangtse.

Wuhan, Hupeh's capital with a population of 1,800,000, is the largest city in this region. It is a triple city consisting of Wuchang, Hankow and Hanyang. Hankow is on the left bank of the Han Shui where the latter enters the Yangtse. It is the centre where the cargo of the Yangtse's middle and upper reaches is collected and distributed. Wuchang, on the right bank of the Yangtse,

is where the 1911 uprising which overthrew the Manchu feudal rule took place. Hanyang on the right bank of the Han Shui was the place where the famous Hanyang Iron Works was located. (During the anti-Japanese war, the iron works was removed and damaged.)

Since liberation Wuhan has become not only a key port for land and water transport on the middle Yangtse but one of the most important industrial cities in China. With a huge integrated iron and steel enterprise under construction, Wuhan is becoming the steel centre of the Middle Yangtse Region. In the past, Hankow, Hanyang and Wuchang were separated by the Yangtse and the Han Shui and the Peking-Hankow and Canton-Hankow railways could not link up, causing inconvenience to transport. With the completion of the bridge across the Han Shui connecting Hankow and Hanyang and the bridge across the Yangtse connecting Wuchang and Hanyang, trains can now pass over the bridges to link up the south and the north. Wuhan's communications have become still easier.

## CHAPTER THIRTEEN

# THE SOUTH-EAST COASTAL REGION

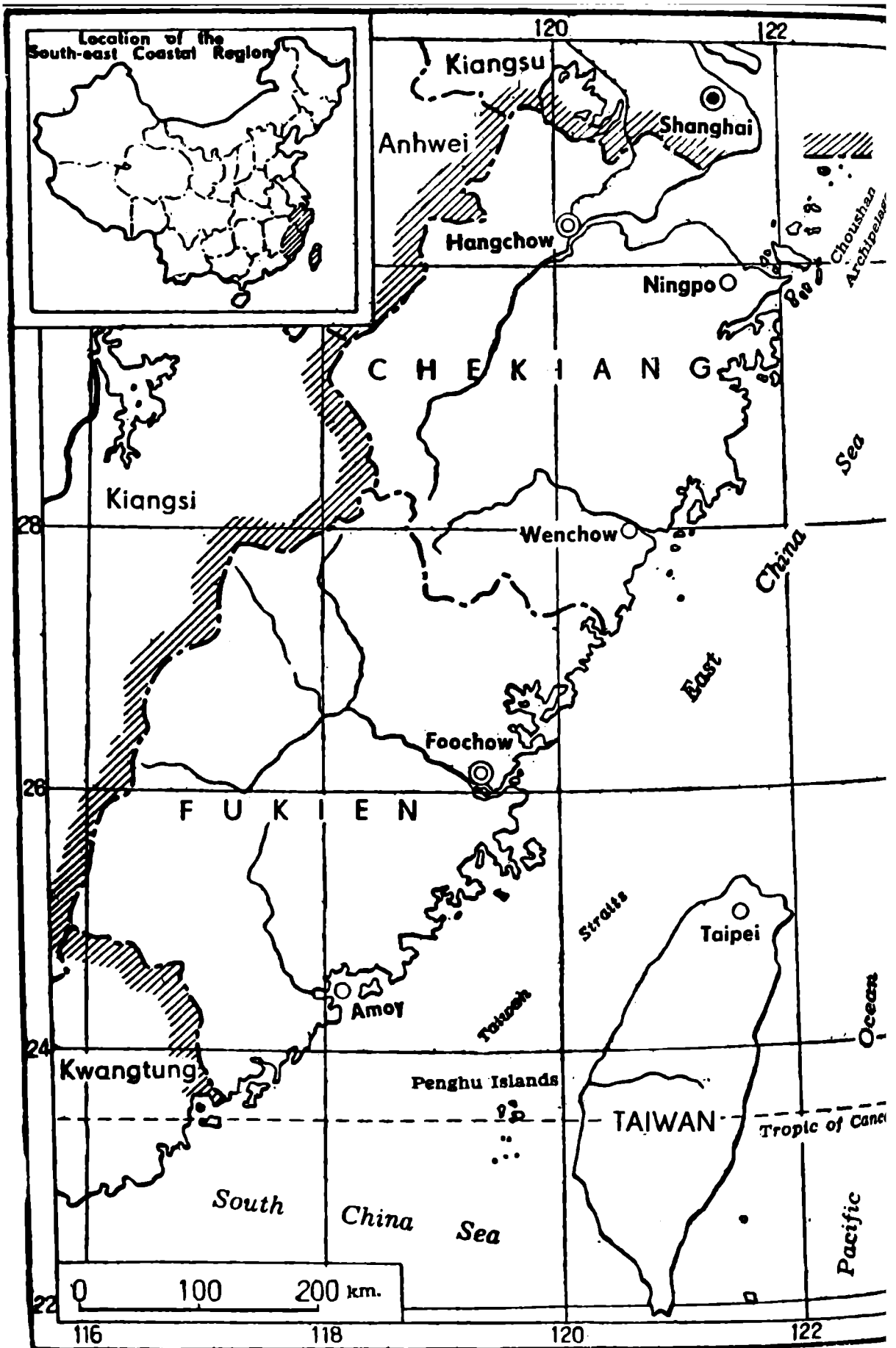
### Location and Physical Features

China's South-east Coastal Region includes the two mainland provinces of Chekiang and Fukien and the island province of Taiwan. The total area is 260,000 square kilometres.

The mainland coast of the region lies just above the Tropic of Cancer, which cuts across Taiwan. The region is separated from the Middle Yangtse Region in the west by the Wuyi Mountains and the Hsienhsia Mountains. The northerly mainland coast is washed by the East China Sea; further south is the Taiwan Straits, and, off Taiwan's eastern coastline, the Pacific.

The whole region is characterized by undulating hills, and has a warm climate accompanied by heavy rainfall. Unlike other parts of the country, most rivers in Chekiang and Fukien have their own outlets to the sea. The place is famous for its beautiful scenery, with its green-clad mountains and limpid streams.

The coast is deeply serrated, and abounds in harbours and islands, the biggest, Taiwan, being the country's largest. The Choushan Archipelago lies off northern Chekiang. The maritime routes run north-east to Japan



**The South-east Coastal Region, Administrative Divisions**

and south to the South Seas. The Taiwan Straits serve as a natural corridor connecting the East China and South China seas. The Penghu Islands are equipped with an important naval port at Penghu. The South-east Coastal Region is of strategic importance to China's national defence.

**Chekiang and Fukien Hills.** Hills and mountains constitute the main physical features of Chekiang and Fukien provinces. There are only a few plains. The larger one is situated north of the Hangchow Bay and south of the lake Tai Hu. There are other narrow plains along lower sections of other rivers.

Topographic characteristics of the two provinces are: In geological age, Chekiang and Fukien formed one of China's old-land regions.<sup>1</sup> The mountain ranges here are what have been left over after long periods of weathering and erosion, and consequentially their altitudes are not high, being generally less than 1,000 metres above sea level, except for the summits of the Wuyi and Taiyun mountains which rise above 1,500 metres.

The mountain ranges trend northeast-southwest, roughly parallel to the coast. They may be put under two main groupings: One consists of the Wuyi Mountains, astride of the Fukien-Kiangsi border, extending northward to become the Hsienhsia and Tienmu mountains. Another is the Taiyun Mountains in central Fukien, which also extends northward to join the Kuotsang and Tientai mountains in Chekiang.

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<sup>1</sup> There are three old-land regions in China which have never been submerged by the sea throughout all geological ages. One each is in the Inner Mongolian Autonomous Region, on the Tibetan Plateau, and in the North-east and along the south-east seaboard.

Erosion of the surface rock has produced grotesque mountain ridges, such as the well-known scenic Yentang Mountains in eastern Chekiang. Mountains here are also famous for their waterfalls, wreaths of clouds, spring flowers and flaming leaves in autumn, making them enchanting places to visit.

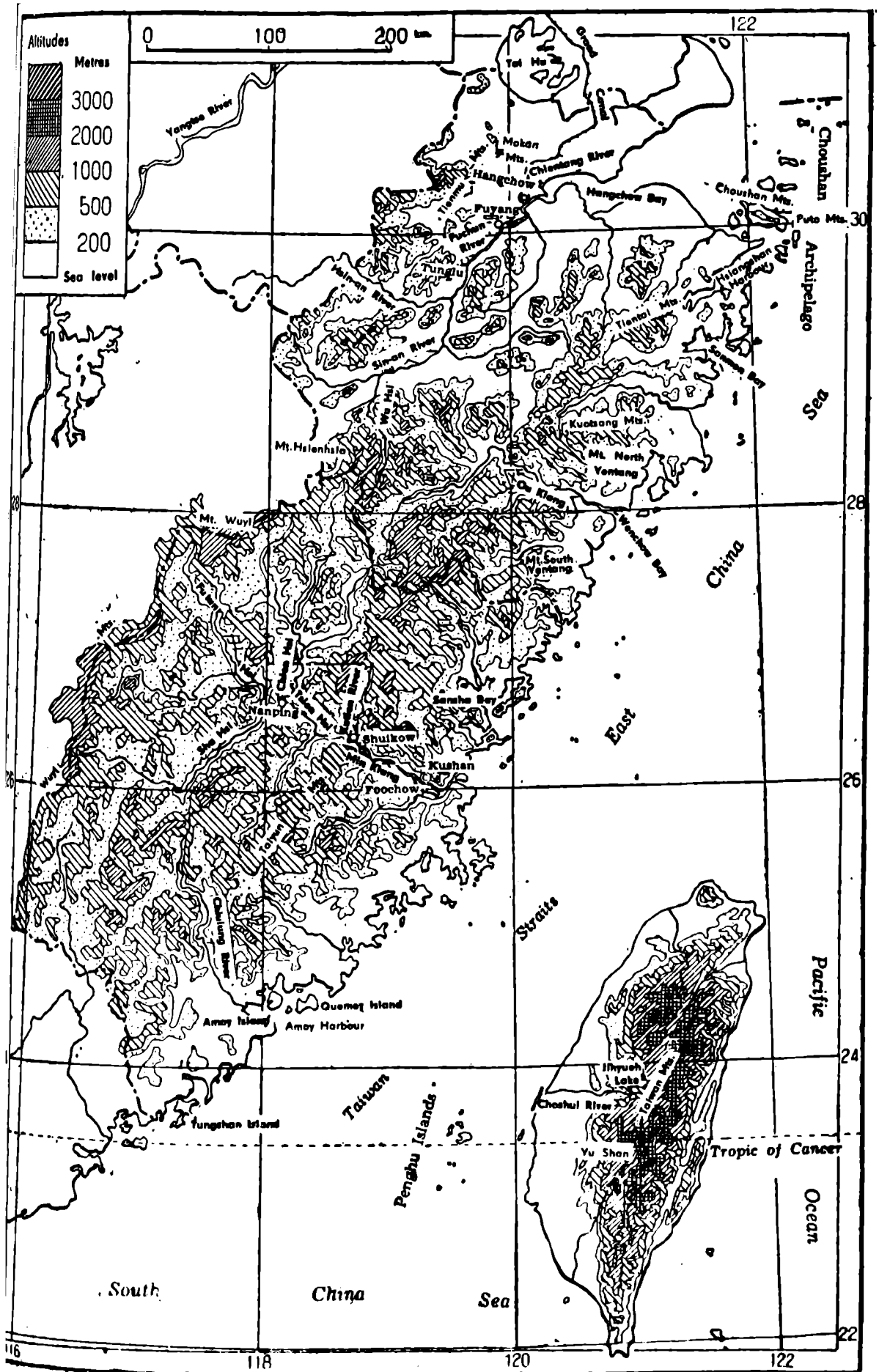
**Coast and Islands.** Except that sandy section around the Hangchow Bay, most of the coast along Chekiang and Fukien is rocky. The sinking of the continental mass has been reflected here in a noticeable coastal subsidence. Many islands off the south-east coast were originally mainland hills, notably the Amoy Island and the Choushan Archipelago.

The area's zigzagged coastline is fringed with many good natural harbours, which, prior to the subsidence of the continental mass, were once coastal lowlands and valleys. Prominent among them are the Hsiangshan Harbour, the Wenchow Bay and the Sansha Bay.

The lower reaches of the rivers in Chekiang and Fukien being funnel-shaped are subject to tidal bores. That of the Chientang River, Hangchow Bay, is the most famous. The tidal front in the Hangchow Bay may reach as high as eight metres, the sea foaming and rising as it is forced into the narrower reaches. Its thunderous noise has been likened to thousands of horses galloping abreast. It is an awe-inspiring sight to watch.

**Taiwan Island.** There are far more islands off the south-east seaboard than in any other region in China. Taiwan, the country's largest, has an area of some 36,000 square kilometres. It is surrounded by 78 small islands, 64 of which belong to the Penghu Islands.

The island is separated from Fukien in the west by the Taiwan Straits, and the distance between Keelung in



**Topography of the South-east Coastal Region**



northern Taiwan and Foochow is only 146 nautical miles. It is bounded by the Pacific in the east, the East China Sea in the north, and the South China Sea in the south. It occupies a very important position in China's territorial waters.

Two-thirds of Taiwan is wooded hills and mountains with a stretch of fairly broad plain along the western coast. Taiwan's chief mountain range, sharing the name of the island, roughly trends north-south, and sprawls vertically throughout the island to form its backbone. This range dips into the sea in the north-east to join the mountains in the Ryukyu Islands and Japan, and in the south links up with those in the Philippines, thereby forming an arc of mountain system off the eastern coast of the Asian continent, or topographically an island arc. Many of the mountains of Taiwan are 3,000 metres and more in height. Of these, the 3,950-metre Yu Shan, is the highest in East China.

In geological formation, eastern Taiwan lies close to the deep-sea trough in the Pacific. The fault block on the island is still active, with frequent minor earthquake shocks every year. Volcanoes on the northern tip of the island are known as the Tatun Volcano Group. Although there have been no eruptions for a long time, gushings of sulphuric gas from hill slopes are frequent. Here, hot springs rich in sulphur content are found in abundance.

## Climate, Soils and Vegetation

**Warm and Humid.** Most of Chekiang and Fukien lies in the sub-tropical zone, while Taiwan is tropical in the

south. Mountain barriers on the mainland block the cold waves sweeping down from the north. Winter therefore is warm in most of the region, with however a mildly cold weather north of the Hangchow Bay. The average January temperature south of Wenchow is mostly  $8^{\circ}$  C—this is no winter, it is springtime. The thermometer in Hengchun on the southern tip of Taiwan is always above  $20^{\circ}$  C.

Because of the sea, summer in the region is not as hot as inland China. Average July temperature is  $27.5^{\circ}$  and  $28.6^{\circ}$  C in Hengchun and Foochow respectively, whereas it is as high as  $30^{\circ}$  C in Changsha of the Middle Yangtse Region.

Because of its proximity to the sea and its undulating hills the region has the heaviest rainfall in China. A contributing factor is the precipitation occasioned by typhoons in passage. It gives rise to an annual rainfall of more than 1,500 mm. in most of the region, largely concentrated in the summer months.

In north-eastern Taiwan, the mountain slopes exposed to wind also receive much rain in winter, when the north-easter blows in from the sea. Huoshaoliao in the vicinity of Keelung has the country's heaviest annual rainfall of 6,700 mm.

**Typhoons.** The South-east Coastal Region is the area of China most exposed to typhoons. Typhoons originating from the ocean east of the Philippines average five a year, every second one striking between Swatow and Wenchow. They occur mostly between May and October, and are most active in the Taiwan Straits in August. The most violent reach a force of one hundred kilometres an hour,

Many weather stations have now been set up along the coast, and broadcasting stations are used to disseminate typhoon forecasts and warnings. In 1952, when a typhoon approached Ningpo, Chekiang, the local government mobilized 200,000 people to protect the 300-kilometre-long sea walls and river dykes, thereby preventing a vast area of farmland from inundation and crop failure.

**Vegetation.** Warm weather and abundant rainfall are conducive to the growth of the region's luxuriant natural vegetation — timber, flowers and crops of all kinds.

Plains and alluvial lands in the river valleys are largely given over to rice or sugar-cane. A popular tree is the banyan, whose branches root themselves and whose canopy of green leaves gives a cool shade. In southern Taiwan such tropical plants as the betel-nut, and coconut palm are widely grown.

In hilly areas red and yellow soils predominate. The forests on the hills are mainly sub-tropical evergreen broad-leaf. Camphor, tea, lacquer, wood-oil and tallow trees are cultivated. Bamboo groves abound. Grey brown earth is characteristic of mountain areas where mixed forests of temperate zone and coniferous trees are found. Mountain areas in Fukien and Taiwan are covered mostly with juniper, pine and fir.

## Rivers and Their Utilization

The region has many rivers. Flowing into the sea independently, they are mostly short rivers. The longest, the Min Kiang in Fukien, is 480 kilometres long, less than one-tenth the length of the Yangtse. All have

steep gradients and swift currents, offering potential power resources. Along the lower sections of the rivers small deltas or narrow plains have been formed by alluvial deposits.

Of the region's many rivers the most important are the Chientang in Chekiang, the Min Kiang in Fukien and the Choshui River in Taiwan.

The Chientang, also known as Che Kiang, is the largest river in the province. It is formed through the confluence of its two headstreams, the Hsin-an and the Sin-an. Despite numerous reefs and rapids, these two headstreams are navigable for junks and serve as the major routes between Chekiang and its two neighbouring provinces of Anhwei and Kiangsi. Already a big hydro-electric station is being built on the Hsin-an, which, when completed in 1960, will generate electricity sufficient for urban and rural use throughout the vast areas of Shanghai, Nanking and Hangchow. The Chientang valley is nationally noted for its exquisite scenery.

The drainage basin of the Min Kiang covers one half of Fukien Province. It receives water from the Chien Hsi, Futun River and Sha Hsi, all originating in the Wuyi Mountains. The Min Kiang is strewn with fairly steep gradients, rapids and hazardous reefs, making inundations on the lower reaches a frequent occurrence when the river is in summer spate. At ordinary times, the reefs present a headache to the boatmen. The river has now been cleared of many of its submerged reefs, while flood-prevention embankments built and a protective belt planted along the lower course make navigation much easier than in pre-liberation days. A hydro-electric station has been erected on the Kutien River, one of the Min Kiang's tributaries.

Most of the rivers in Taiwan flow westward into the Taiwan Straits. The island's largest river is the Choshui River, whose currents at the upper section are very swift. On the Jihyueh Lake, at the river's upper stream, is a big hydro-power station.

## Inhabitants and Economic Development

**Inhabitants.** The region has a total population of more than 43,000,000, which is very unevenly distributed. Rural population is dense south of the Tai Hu and on the deltas along the Chekiang-Fukien coast. But inland mountain areas are thinly peopled.

Mountainous Fukien has little arable land. Under the oppressive exploitation of the feudal past, the peasants found it difficult to eke out an existence, and many were forced to leave the province to seek a living in Taiwan and abroad.

More than 95 per cent of Taiwan's inhabitants are Han people, and most of them are descendants of immigrants from Fukien and Kwangtung. The Kaoshan people, a national minority, live mostly in the mountains of the island. More than fifty years ago, they numbered upwards of 200,000. But the population steadily dwindled as a result of the slavery and slaughter by the Japanese occupationists.

Liberation has brought daylight to the people on China's mainland, but those in Taiwan are still groaning under the yoke of the U.S.-Chiang Kai-shek clique. Taiwan is an inseparable part of China and must be liberated.

**Main Farm Produce.** The region is one of China's main producers of sub-tropical and tropical crops. Irrigated rice is largely cultivated in plains and river valleys, with double cropping in most of the areas. Hill-side terracing is widely practised, where sweet potatoes and other food crops are grown. Other products are sugar-cane, silk and jute. Taiwan's output of sugar-cane occupies the country's first place; silk is produced chiefly in northern Chekiang, and jute around Hangchow.

The region is also a major fruit-producer. The tangerines, oranges, pomelos, longans, bananas, pine-apples and lichees of the area are nationally known. It produces large quantities of tea, an important export commodity. Famous leaf types include the Lungtsing leaf from Chekiang, the Wuyi leaf (or bohea, a Western corruption of the same name), from Fukien, and the Oolong leaf from Taiwan.

Wuyi and Taiwan mountains are covered with luxuriant natural forests. Firs in Fukien and pines in Taiwan are excellent construction timber. Lacquer trees, oaks and camphor trees all have great industrial value. The former two are chiefly produced in Fukien. Taiwan is the world's greatest producer of camphor.

Agricultural and forest production has gone up considerably since liberation. Once suffering from food shortage, Chekiang and Fukien are now self-sufficient in grain supply. No longer depending on rice imports from abroad, they now even have a surplus for other parts of the country.

**China's Largest Fishing Ground.** The indented coast, the abundance of harbours, bays and offshore islands, the vast expanse of shallow sea adjoining the coast, and the plentiful supply of food for the fish give the region

its foremost place in China's marine fishing industry. The sea surrounding the Choushan Archipelago in Chekiang is the country's largest fishing ground. Big catches are made of herring, hair-tail fish and cuttle fish. Giant sharks and prawns are also valuable additions.

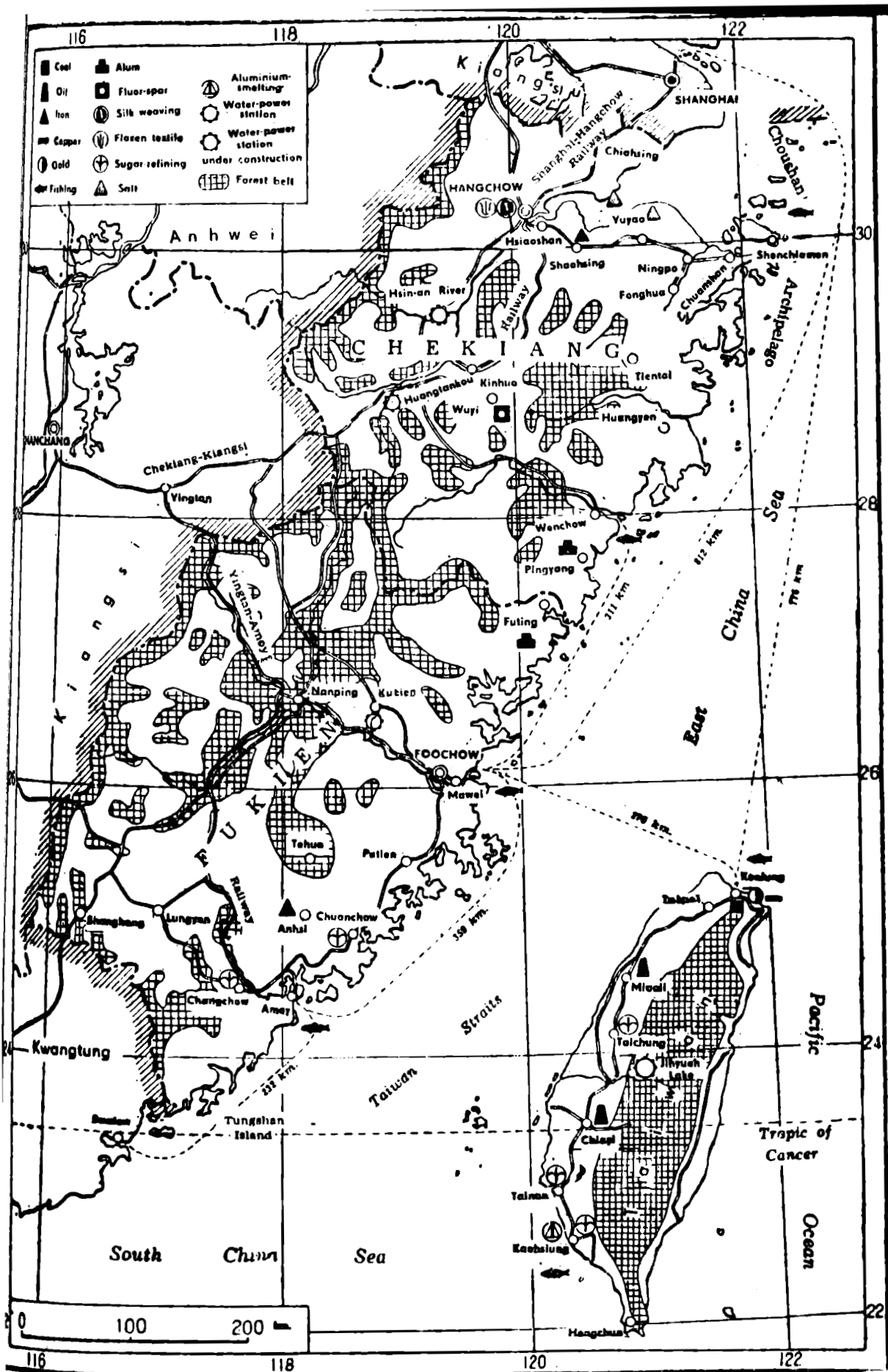
In recent years, the People's Government has made facilities available for transporting marine products, and set up a factory in Choushan to make fish meal, a plant to build motor trawlers and cold storage plants. It has helped the fishermen to form co-operatives, and advanced them loans for equipment and processing plants. Living conditions of the fishermen have steadily improved.

**Mining and Industry.** Considerable iron-ore reserves are found in Shaohsing of Chekiang and Anhsi of Fukien, and small iron and steel works have been built up in Shaohsing. The region is generally poor in coal reserves; only Keelung in Taiwan produces any sizable amount. Some petroleum has been obtained in the western part of the island province, principally in the Miaoli-Chiayi area. In Chekiang, alum is mined near Pingyang, and fluor-spar, a flux for the steel industry, is found near Wuyi County. They both top the country's output.

Sugar refining is one of the region's important industries with its centre in southern Taiwan. At its zenith, the island had more than forty refineries, with an output ranking fourth in the world. As a result of the monopolization and destruction by the U.S.-Chiang bloc, Taiwan's sugar production has sunk low.<sup>1</sup> Hangchow has long been famous for its silk industry which is now added

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<sup>1</sup> Taiwan produced as much as 1,400,000 tons of sugar in 1938. But it now can barely manage to turn out 60 per cent of its former output.



Distribution of Industries of the South-east Coastal Region



to by the construction of a big silk weaving factory. A new gunny-bag manufacturing plant is also in full operation there.

Lacquerwares of Fukien, and silk sunshades, sandalwood fans and other artistic handicraft products of Hangchow are highly treasured both at home and abroad.

In general, Chekiang and Fukien are not industrially developed, but they have potential development in such industries as hydro-electric, mining, lumbering, sugar refining, fishing, food processing, shipbuilding, paper making, oil refining, aluminium smelting, and silk and jute weaving.

## Communications and Cities

**Maritime Transport.** In view of the many good harbours and bays that fringe the coast of Chekiang and Fukien, and the concentrations of inhabitants and major cities along the coast, maritime transport is of particular importance to the region as a whole. Among the important seaports are Ningpo and Wenchow in Chekiang, Foochow and Amoy in Fukien, and Keelung and Kao-hsiung in Taiwan. Sea routes have, however, been partially impeded, as Taiwan remains to be liberated.

**Railways.** While Fukien was devoid of rail lines before liberation, Chekiang had only two, the Shanghai-Hangchow and the Chekiang-Kiangsi railways. The former connects with the Shanghai-Nanking Railway and the river transport of the Yangtse. The latter starts from Hangchow, passes through Kiangsi Province, and reaches Chuchow in Hunan, where it joins the Peking-Canton line. These two railways serve as overland trunk

transport lines of the region. They also play a big role in facilitating the interflow of goods between the lower Yangtse, the Chientang River, the Kan Kiang and the Hsiang Kiang basins and the lower Pearl River.

Two new railways have been built, one between Hsiao-shan and Chuanshan Harbour, east of Ningpo, and the other between Yingt'an in Kiangsi and Amoy in Fukien, both connecting with the Chekiang-Kiangsi line. A long causeway has been built to join the island of Amoy with the mainland, thus enabling the train to reach Amoy without stop. A branch line of the Yingt'an-Amoy Railway is now under construction to link Nanping with Foochow.

Work has already been started on the great Fukien-Yunnan Railway. This 3,000-kilometre railway will be China's second east-west trunk line. It starts from Chuanchow on the eastern coast and ends at Tali in the southwestern province of Yunnan, after passing through Kiangsi, Hunan and Kweichow provinces.

Taiwan is equipped with a comparatively dense rail network, principally in the western part of the island. A trunk line runs through the island, in less than ten hours' travel, from Keelung in the extreme north to Kaohsiung in the south, passing through Taipei, Taichung and Tainan.

**Cities.** Cities of the region are widely scattered and relatively small in size. Most of the major cities are situated on the plains where rivers empty into the sea.

Situated on the north bank of the Chientang River, Hangchow, one of China's famous ancient capitals, has a population of 700,000. Now provincial capital of Chekiang, it has long been associated with its picturesque and beautiful West Lake. Originally a corner of a

bay, the West Lake became what it is now when the mouth of the bay was silted up. With a circumference of 15 kilometres, it is surrounded by wooded hills on three sides; its water is placid and clear as a mirror. Its landscape changes with the four seasons of the year. In the spring, the willow trees make the Su Tung-po and Pai Chu-I causeways a shaded corridor, as if in an emerald smoke-screen. In summer the air is filled with the fragrance of lotus blossoms, and in autumn the hills are aflame with the red and pink and gold of maple and other leaves. The Ku Shan (Lonely Hill) is virtually buried in a sea of flowering plum in the winter.

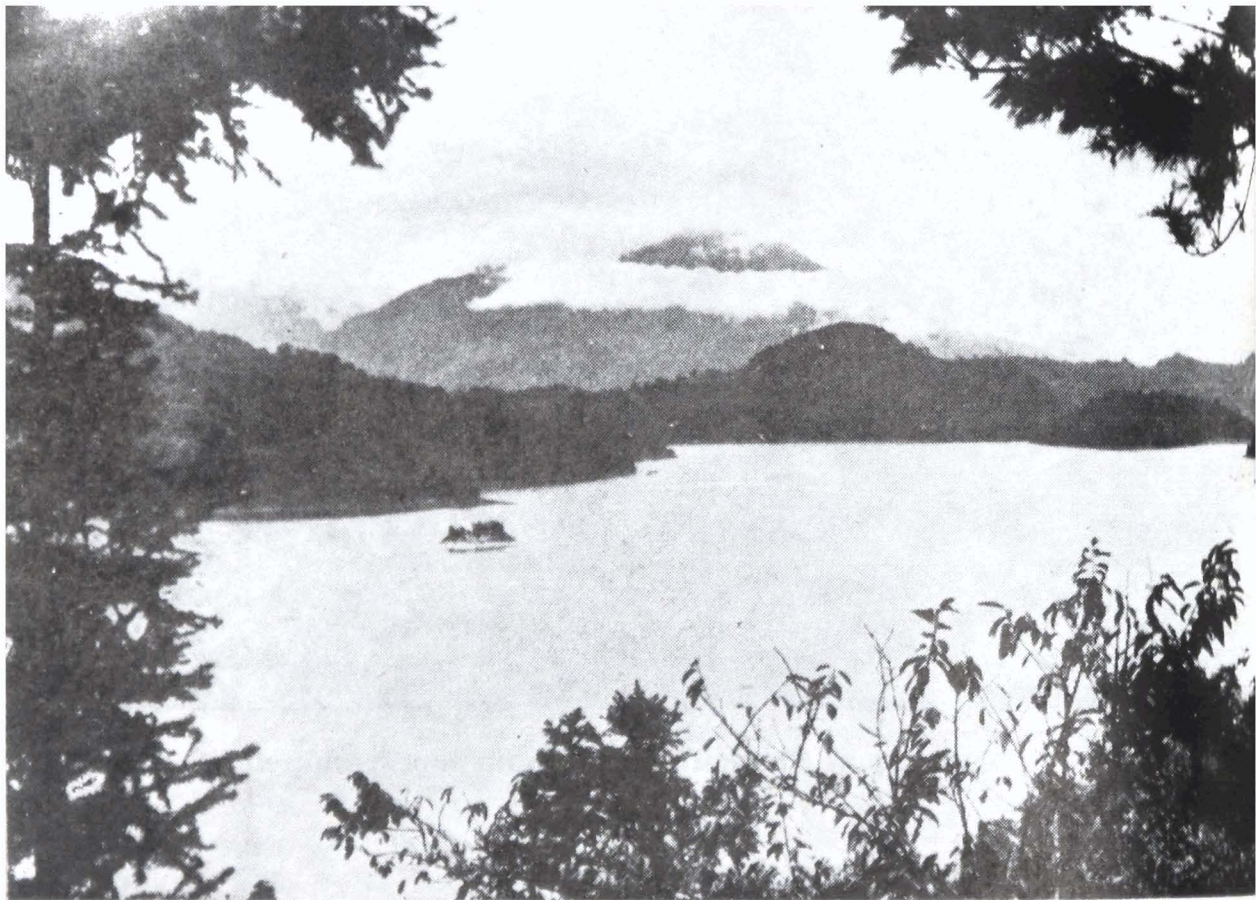
For centuries, this charming place was the monopoly of the privileged classes, who built their lakeside palaces and *de luxe* mansions. But with liberation the West Lake was restored to its rightful owners — the working people, and the villas and mansions have been converted into sanatoria and rest homes. The People's Government has, moreover, made the West Lake and Hangchow lovelier than ever by refurnishing the dilapidated and damaged beauty spots and ancient relics, planting tens of thousands of flowers and trees, and adding many new gardens and rest homes.



**The fishing harbour at Shenchiamen, Choushan Archipelago**

**The West Lake, Hangchow**





**Jihyueh Lake of Taiwan**

## CHAPTER FOURTEEN

# THE KWANGTUNG-KWANGSI REGION

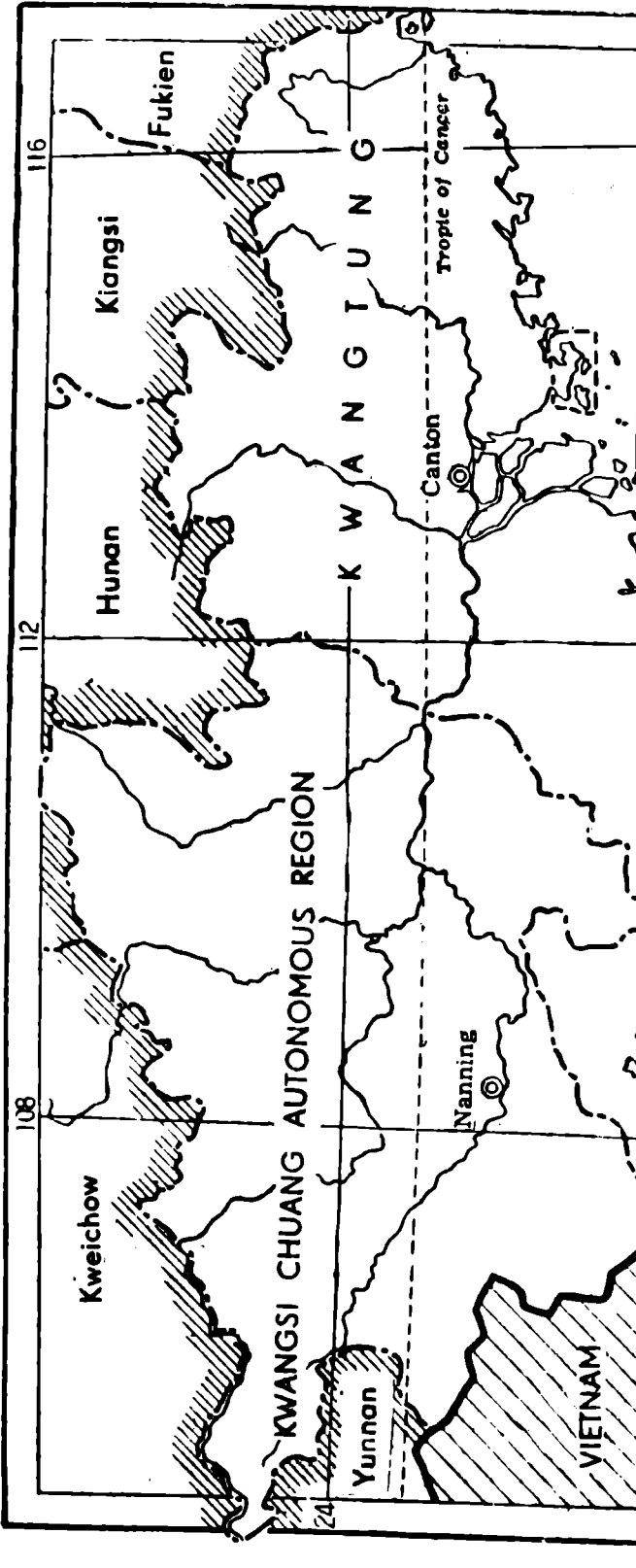
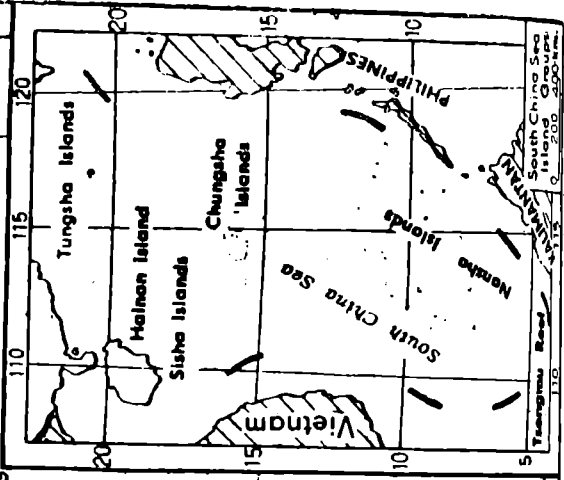
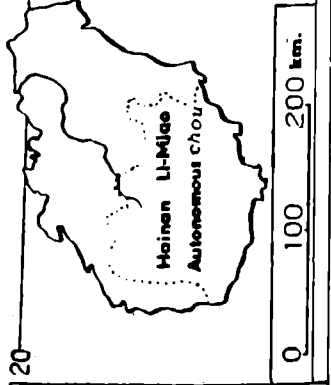
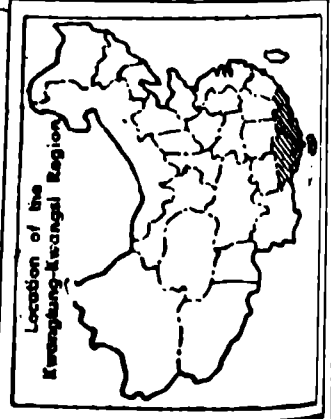
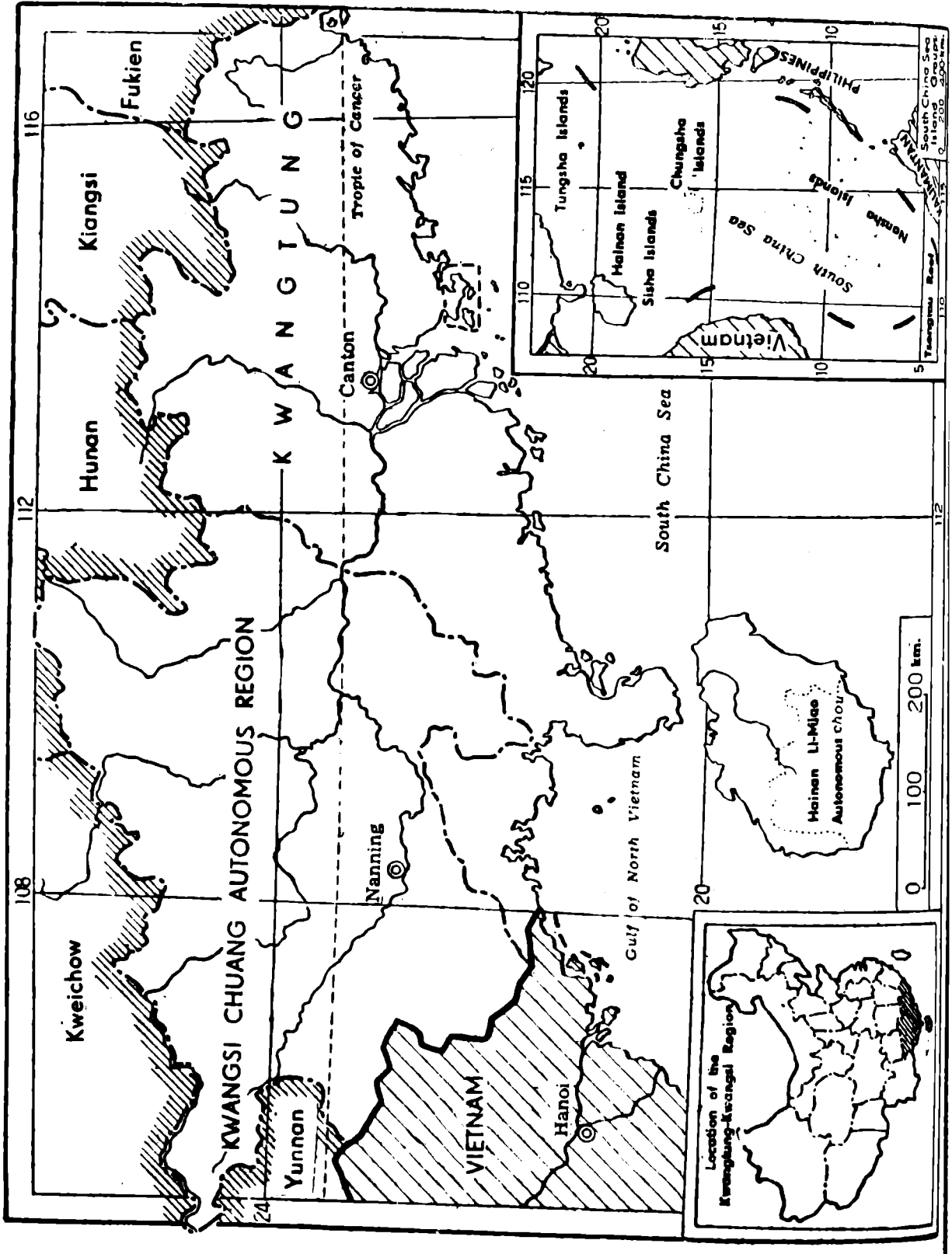
### Location and Physical Features

Kwangtung Province and the Kwangsi Chuang Autonomous Region have a total area of 450,000 square kilometres, and are bisected by the Tropic of Cancer. The region is also known as South China.

In the north, the region is separated from the Middle Yangtse Region by the Nanling, and is sheltered by the Chekiang-Fukien Hills in the north-east. It borders the Yunnan-Kweichow Plateau in the north-west, and adjoins the Democratic Republic of Vietnam in the south-west. Its southern coast is washed by the South China Sea, which is dotted with many small islands and reefs, and Hainan, China's second largest island, lies just off its coast. The southernmost territory of China is the Tsengmu Reef, near Latitude 4°N.

The people in Kwangtung and Kwangsi are marine-minded, and navigation has long since been developed, which brings the region into close contact with the outside world.

Topographically, the two provinces are studded with low hills, and narrow strips of level land can be found only in deltas at the lower courses of the rivers and along the seaboard.



**The Kwangtung-Kwangsi Hills.** The Wuling Mountains<sup>1</sup> and the Kiulien Mountains line the northern border to separate the region from the Middle Yangtse Region. The whole terrain descends from the north-west and the north towards the South China Sea, and is traversed by the Pearl River and the Han Kiang. Except the Wuling Mountains in the north and the area adjacent to the Yunnan-Kweichow Plateau in the north-west where the altitudes are higher, most of the region is below 500 metres. Flat, low-lying valley lands in Kwangtung are mostly under 50 metres, while those in Kwangsi range between 50 and 200 metres.

Kwangsi is characterized by a karst topography, as limestone predominates there. Ages-long solution of the limestone has brought about a forest of pinnacles and spires, sink holes and caverns. Rivulets and creeks at the upper courses of rivers disappear midway to become subterranean streams. Kwangsi is thus like a natural garden of spectacular limestone scenery — everywhere there are disconnected and picturesque hills, residual columns of vertical limestone spires, intricate and lengthy caverns, and bizarre stalactites and stalagmites. The landscape in Kweilin is particularly enchanting, and has long been known as “unparalleled throughout the whole country.”

The Kwangtung-Kwangsi Hills extend right to the coast, most of which is rocky and indented. There is

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<sup>1</sup>The Wuling Mountains, or the Five Mountains, are part of the Nanling Range. These five mountains are the Yuehcheng, Tupang and Mengchu on the Hunan-Kwangsi border, the Chitien on the Hunan-Kwangtung border, and the Tayu on the Kiangsi-Kwangtung border.



no lack of good harbours and bays, such as the Swatow Bay, the Kwangchow Bay and the Chinchow Bay.

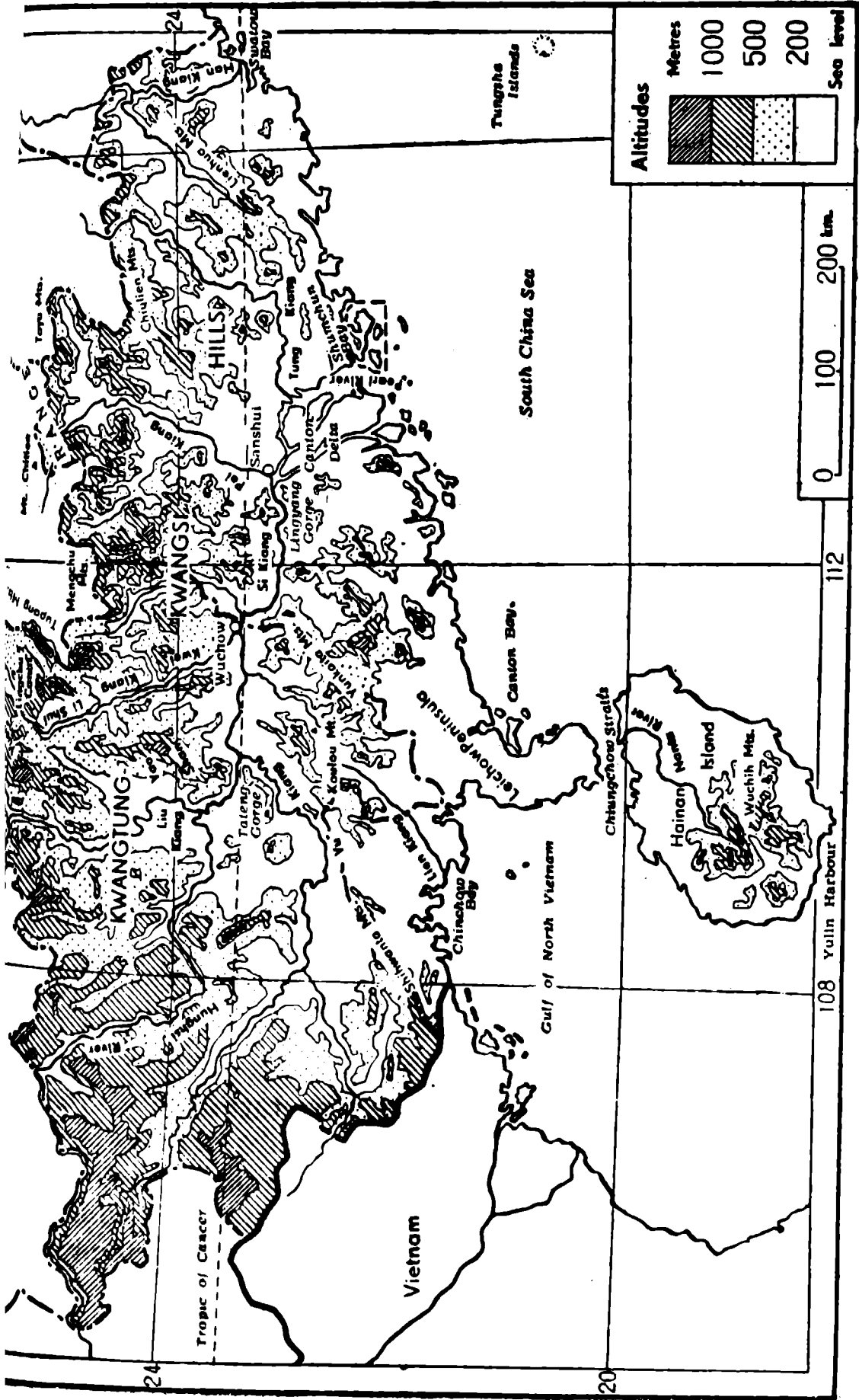
**The Canton Delta.** Conspicuous among the narrow plains of the region are the deltas at the estuaries of the Pearl River, the Han Kiang and the Lien Kiang. Of these, the Canton Delta is by far the largest, covering an area of roughly 10,000 square kilometres. The delta is built up by alluvial sediments of three main rivers: the Si Kiang (West River), the Pei Kiang (North River), and the Tung Kiang (East River).

The terrain of the Canton Delta is interlaced by a network of distributaries in a trellis pattern, cutting it into numerous pieces. It is also dotted with innumerable hills, which were originally islands in the sea. The farmlands on the delta are not much above river level, and have to be protected against inundation by embankments planted with trees. The soil is fertile; there is a developed agriculture and a dense population—all similar to the Yangtse Delta.

**The Hainan Island.** Hainan, slightly smaller than Taiwan, is China's second largest island, with an area of 34,000 square kilometres. It was once connected with the Leichow Peninsula. The narrow Chiungchow Straits (Hainan Straits), only 22 kilometres in width, separates it from the mainland.

Most of Hainan is mountainous, especially in the centre. The main peak, 1,900 metres, is situated slightly south of centre. From it five ranges branch out like the fingers of a hand, hence the name of the Wuchih (Five-Fingered) Mountains. Most of the plain in the north has been put under the plough. Other flat areas are very narrow.

**The South China Sea Island Groups.** The South China Sea which washes the shore of the Kwangtung-



**Topography of the Kwangtung-Kwangsi Region**

Kwangsi Region is the largest of all the seas surrounding China's coast, extending as far south as the vicinity of the Equator. It is bounded by the Indo-China Peninsula in the west, the Philippine Islands in the east, and Kalimantan (Borneo) in the south. In the north-west, the Gulf of North Vietnam penetrates into the mainland. The vast South China Sea is not only rich in marine resources, but also occupies an important place in the communications between China and south-eastern Asia.

Apart from Hainan, the South China Sea is dotted with numerous small islands. These islands, totalling more than 150, can be classified under four groups: The Tungsha Islands, the Sisha Islands, the Chungsha Islands, and the Nansha Islands.

These small islands are all coral in origin. There are coral reefs which constitute a peril to navigation, and some atolls which are useful natural refuge for fishermen. Coconut palms on these tiny islands serve as landmarks for the seamen.

These islands were discovered by Chinese navigators and fishermen many centuries ago. Fleets from Hainan often sail there to fish and collect seaweed for food and guano deposits for fertilizer. Chinese fishermen have set up signal posts and beacon buoys, built temples for worship and shelters for rain and storms on many of the islands.

## Climate and Vegetation

The Kwangtung-Kwangsi Region being sub-tropical, and the Leichow Peninsula, the Hainan Island and the South China Sea island groups being tropical, the weather

is warm all the year round. Canton, for example, has six and a half summer months and five and a half spring and autumn months. Summer in Chiungchow, northern Hainan, lasts as long as eight and a half months, where the average temperatures in January and July are 18° and 29° C respectively, and where variations in winter and summer temperatures are relatively insignificant.

The region's summer, though long, is not as scorchingly hot as some inland areas, not excepting the hottest days — a climatic condition similar to that of the south-east seaboard. This is because of the cooling influence of the sea breezes.

**Heavy Rainfall.** The region has an average annual rainfall of 1,200 mm., and as much as 2,000 mm. in a number of places.

The rainy season starts early in Kwangtung and Kwangsi — as early as April or May and prevails until October. From May to October, there is the likelihood of typhoons which are frequently accompanied by rain bursts.

**Soils and Plant Life.** The soils in Kwangtung and Kwangsi are mostly red soils in the hilly areas, and fertile non-calcareous alluvium in the flood plains and deltas. The vegetation is tropical and sub-tropical.

On Hainan and in the Leichow Peninsula coconut palms and banyan trees cover a wide area. The shallows of the estuaries as in most tropical areas are covered with mangroves.

Palms, betel-nut trees and a great variety of fruits are also grown in Hainan, in addition to many other tropical crops including rubber, coffee and cinchona.

Vegetation in the Kwangtung-Kwangsi Hills are less luxuriant and smaller in size than in Hainan, because

winter here is drier and cooler. Although evergreen trees still dominate, there are also mixed deciduous ones, while higher mountains are covered with temperate coniferous trees such as pine and fir.

Since most of these hills has long been under cultivation, the original vegetation is now destroyed, and remnants are to be found only in remote parts or on high mountains.

## Rivers and Their Utilization

Most of the Kwangtung and Kwangsi rivers pass through hilly areas, and their flow is swift. Heavy rainfall provides the rivers with much water. In point of volume, the Pearl is next to the Yangtse. Its drainage area is only 58 per cent that of the Yellow River, yet every year it sends six and a half times as much water to the sea. Most of the rivers of the area carry a low silt content, because they flow through hilly areas covered with lush vegetation. Rapid currents and large volume of water bring to Kwangtung and Kwangsi enormous hydro-electric possibilities, which are of particular importance to industrial development in these two coal-deficient areas.

The 2,100-kilometre Pearl River is the largest in South China. It has three main tributaries, the Tung Kiang, the Pei Kiang and the Si Kiang. The Tung Kiang drains eastern Kwangtung, and the Pei Kiang the northern part of the same province. The Si Kiang has a longer course, with its headstream, the Hungshui River, originating from the Yunnan-Kweichow Plateau. It traverses the entire Kwangsi and western Kwangtung, and has numerous

tributaries, the largest being the Yu Kiang, the Liu Kiang and the Kwei Kiang. Flowing through limestone areas, these tributaries are clear, but studded with reefs.

The Si Kiang meets the Pei Kiang in the neighbourhood of Sanshui in Kwangtung whence it proceeds eastward to Canton. From Canton downstream it becomes known as the Pearl. The Tung Kiang joins the Pearl east of Canton. From Sanshui eastward, the river system is like a cobweb, with many outlets to the sea. The Canton Delta is being constantly enlarged seaward by sedimentary deposits, and newly formed sand bars are a handicap to navigation.

## Inhabitants and Economic Development

**Inhabitants.** The combined population of Kwangtung and Kwangsi is 54,300,000, with the greatest concentrations, averaging 500 persons per square kilometre, found in the Canton and Han Kiang deltas, which are among China's densest population areas.

Like Fukien, Kwangtung is a major province of emigration. In pre-liberation days, exodus took place in Chaoan (Chaochow), Swatow, Meihsien and the Hainan Island, mostly to South-east Asia, and some as far as Europe and America. Since liberation, many overseas Chinese have come back to their motherland to take part in national construction and young people in larger numbers have returned to China to study.

Among the many national minorities in the region, the Chuangs in western Kwangsi, numbering about seven million, are China's second biggest nationality after the Han people. There are also the Yaos mostly in Kwangsi,

the Miaos in northern Kwangsi, the Tungs on the Kwangsi-Kweichow-Hunan border, and the Lis and Miaos in Hainan.

These national minorities were brutally oppressed, discriminated against and utterly impoverished by the reactionary ruling classes in the past. They now enjoy regional autonomy in areas where they live in compact communities. Their material and cultural life has steadily improved. In March 1958, the Kwangsi Chuang Autonomous Region was established to take the place of the former Kwangsi Province.

**Agriculture.** Agriculture is largely restricted to the deltas and plains. Terracing is practised on the lower hills. The proportion of cropland acreage to the total area is comparatively small, being 15 per cent for Kwangtung and 12 per cent for Kwangsi in 1954. Still, Kwangtung and Kwangsi remain an important rice-producing area, where irrigated rice yields two to three crops a year, thanks to the uniformly high temperatures and abundant rainfall. Kwangtung has succeeded in switching from a food-deficient area to a rice surplus province. This is the result of the growing enthusiasm in production on the part of the liberated peasantry and the irrigation projects launched by the government. While rice is the dominant food grain on the lowlands, corn and sweet potatoes are raised in hilly areas as staple crops.

Sugar-cane is widely grown, with the Canton Delta gathering in the biggest harvest. Here, silkworms are fed on mulberry leaves, which are harvested seven or eight times a year. Next to the lake Tai Hu area and the Szechuan Basin, the Canton Delta is the country's third largest silk producer.

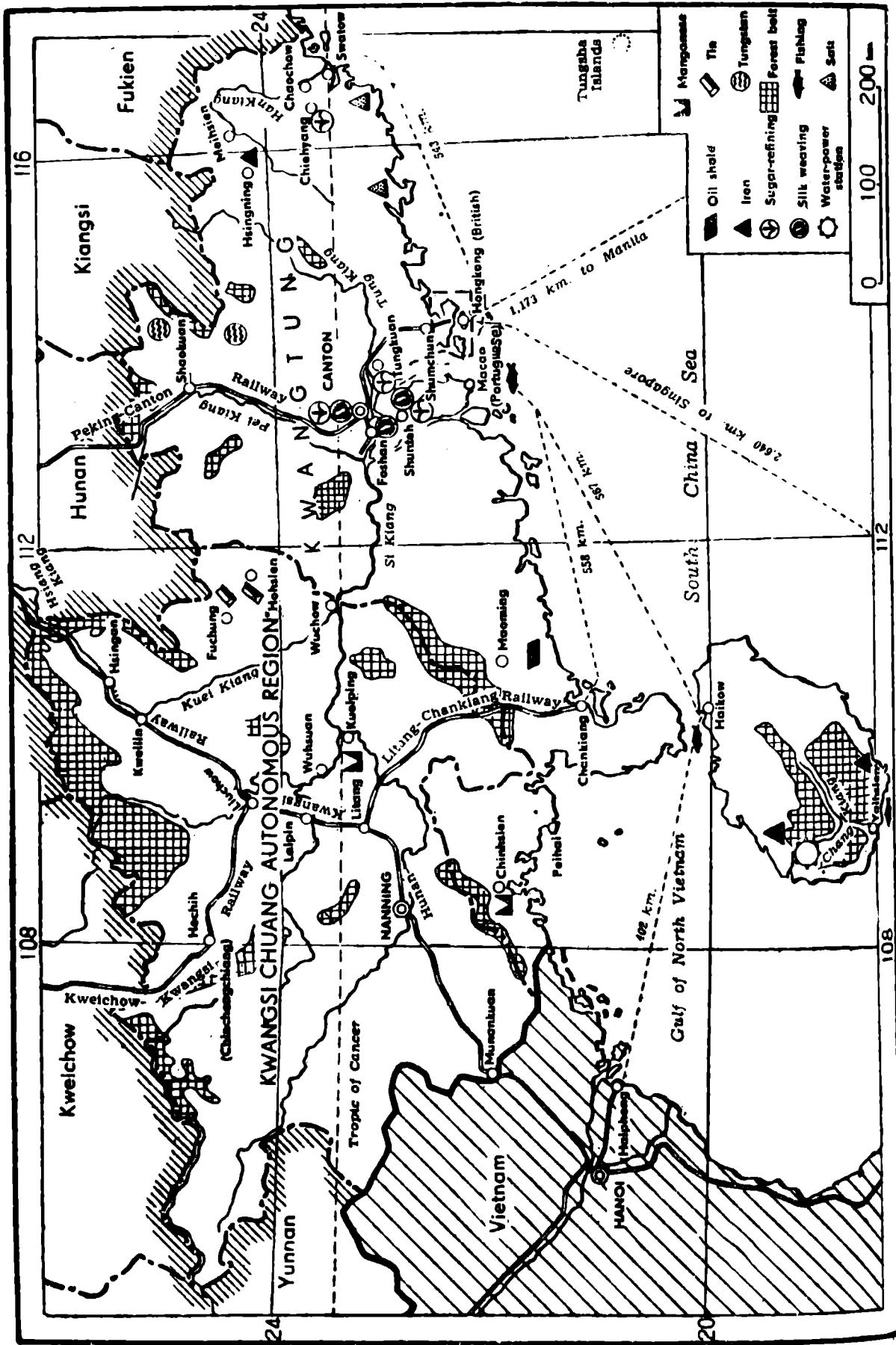
The Kwangtung-Kwangsi Region's timber includes valuable tropical woods such as red sandal and garoo. Tung oil is produced in northern Kwangsi, and aniseed, cassia bark and cassia oil in the north-eastern and south-western parts of it. Several tropical products are distinctive of Hainan, including coconuts, betel-nuts and cinchona, while recent cultivation of natural rubber is successful, with the prospect that the island may become China's largest rubber plantation.

Kwangtung and Kwangsi are a main producing area of tropical and sub-tropical fruits. Bananas, pineapples, oranges, tangerines, pomelos, lichees and longans are widely grown and exported to other parts of the country.

The region's marine products occupy the first place in the nation's output. Good fishing grounds can be found in the South China Sea and the Gulf of North Vietnam, where the waters are teeming with tropical and oceanic fishes such as herring, hair-tail fish, perch, big sharks and snouted sturgeon. There are also big sea-cows, and turtles. Kwangtung and Kwangsi have also a developed fresh-water fishery, and the Si Kiang is famous for its fry. Pond fisheries are common in the Canton Delta.

**Light Industries and Mining.** Outstanding among the light industries of the region are sugar and silk. Sugar refining centres are Fanyu (Punyu), Shunteh (Shuntak) and Tungkuan (Tungkun). Next to Taiwan, Kwangtung is China's largest sugar-producer, from whose rehabilitated and new refineries come most of the country's sugar supplies today. Principal silk filature and weaving areas are Shunteh, Fushan (Fatshan) and Canton, all in the Canton Delta, whose products are comparable to those of the lake Tai Hu district in Chekiang.





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|--|---------------------|
|  | Oil shale           |
|  | Iron                |
|  | Tungsten            |
|  | Sugar-refining      |
|  | Forest belt         |
|  | Silk weaving        |
|  | Water-power station |
|  | Fishing             |
|  | Sets                |



The region is not well endowed with coal, which is mined at Juyuan in Kwangtung and Liuchow in Kwangsi. There are rich iron-ore resources at the upper course of the Mei Kiang in Kwangtung and also in Hainan. Chinghsien (Yamhsien) in the Leichow Peninsula is noted for its large deposits of manganese. With iron-ore and manganese available, the region has possibilities for a future steel industry.

Kwangtung and Kwangsi are rich also in non-ferrous metals. Tungsten deposits in northern Kwangtung rank second in the country, after Kiangsi. China's second largest tin mine is located in Fuchung and Hohsien in eastern Kwangsi, whose production is bettered in quantity only by the Kokiou mine in Yunnan.

## Communications and Major Cities

The region possesses a network of highways and waterways and has for long been China's sea-gate in the south. Main railways in Kwangtung include the Peking-Canton and Canton-Kowloon lines. The latter connects Canton with Shenchuan (Shumchun) in the south-east, thence to Kowloon and Hongkong. Kwangsi is traversed diagonally by a trunk line which reaches Hunan in the north-east. It extends in the south-west to the Vietnamese border at Munankuan, where it joins a Vietnamese railway. A new line linking Litang, Kwangsi, a station on the Hunan-Kwangsi Railway, with Chankiang, a seaport in Kwangtung, was completed in 1955. It facilitates Kwangsi exports, and has an important role to play in further exploiting the natural resources of Hainan Island.

The middle and lower courses of the Tung Kiang, Si Kiang and Pei Kiang are navigable for motor launches, while junks can reach much further upstream. A canal built near Hsingan in the third century as recorded in Chinese history is still navigable. It connects the Li Shui, a headstream of the Kwei Kiang, with Hunan's Hsiang Kiang. By way of this canal, vessels can sail from the Yangtse to the Pearl. In the Canton Delta boats constitute an important means of communication, and in some places one cannot travel at all without them.

Much maritime transport is handled at Whampoa, south-east of Canton with a long record of foreign trade behind it, and at Chankiang, a post-liberation harbour built in the Kwangchow Bay. Swatow in eastern Kwangtung, Peihai (Pakhoi) at the western end, and Haikow (Hoihow) in northern Hainan are also busy ports, carrying an important part of China's overseas trade.

**Cities.** Canton, provincial capital of Kwangtung, is the largest city in the Kwangtung-Kwangsi Region, with a population of some 1,300,000. It is situated in the northern part of the Canton Delta, and is north-west of Hongkong and Macao.

Long ago, Canton had established commercial relations with foreign traders, and became China's largest seaport in the south. But its foreign trade was then controlled by foreign interests. This control was not wrested back by the Chinese people until after liberation. Canton today is a city of rapidly expanding industries in silk weaving, rubber manufacturing and food processing.

The southern metropolis, a gateway to South China, is connected with many parts of the mainland by railways. It is not accessible to ocean liners because of the shallowness of the Pearl, but dredging and port im-

provements have made it possible for 10,000-ton ships to call at Whampoa, Canton's outer port 15 kilometres distant. Canton is also the largest airport in the south, with regular planes taking off for Peking, Chankiang, Chungking and Hanoi, capital of the Democratic Republic of Vietnam.

Canton can be proud of its revolutionary record. A towering obelisk is a memorial to the 72 martyrs who gave their lives in an abortive armed uprising led by Dr. Sun Yat-sen on March 29, 1911, to overthrow the feudal Manchu rule. Again, the city was the site of the celebrated Canton Commune, the first city government ever set up by the Communist-led Chinese working people. The revolt took place after Chiang Kai-shek's betrayal of the revolution in 1927.

Nanning is the capital of the Kwangsi Chuang Autonomous Region.

**Hongkong.** Hongkong, a small rocky island of 83 square kilometres, situated to the east outside of the mouth of the Pearl, had been part of Chinese territory, but was seized by Britain in 1842 after the Opium War. Strategically important, it dominates the entrance to the Pearl, and is endowed with deep and wide harbour for ocean liners. In 1860, Britain occupied the tip of the Kowloon Peninsula opposite Hongkong, and in 1898, it claimed to have obtained a "lease" from the degenerate Manchu regime of the rest of the peninsula. For over a century, the British imperialists, operating from Hongkong as their base, dominated the South China economy of semi-feudal, semi-colonial old China.

With the imperialist forces driven out of the Chinese mainland after liberation, Hongkong has lost its economic importance and functions of bygone days. Together

with Kowloon, it has a population of some two million, comprised almost entirely of Chinese, with very few British residents.

**Macao.** Located on a small peninsula west of the mouth of the Pearl, Macao has an area of 14 square kilometres, including those of its two adjacent islands, Tantsai (Taipa) and Luhuan (Colowan), and a population of some 130,000. In 1553, Portuguese traders landed on Macao under the pretext of drying their soaked goods, but continued to squat upon the place. Taking advantage of the corrupt Manchu regime, the Portuguese forcibly took over Macao after the Opium War.

## CHAPTER FIFTEEN

# THE YUNNAN-KWEICHOW REGION

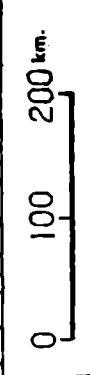
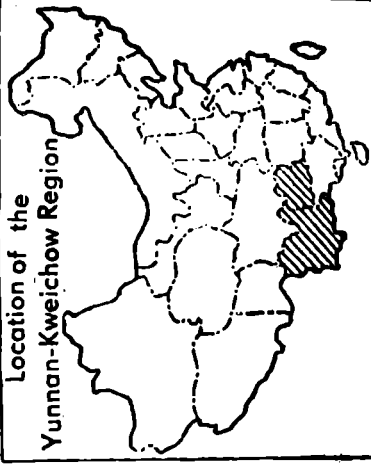
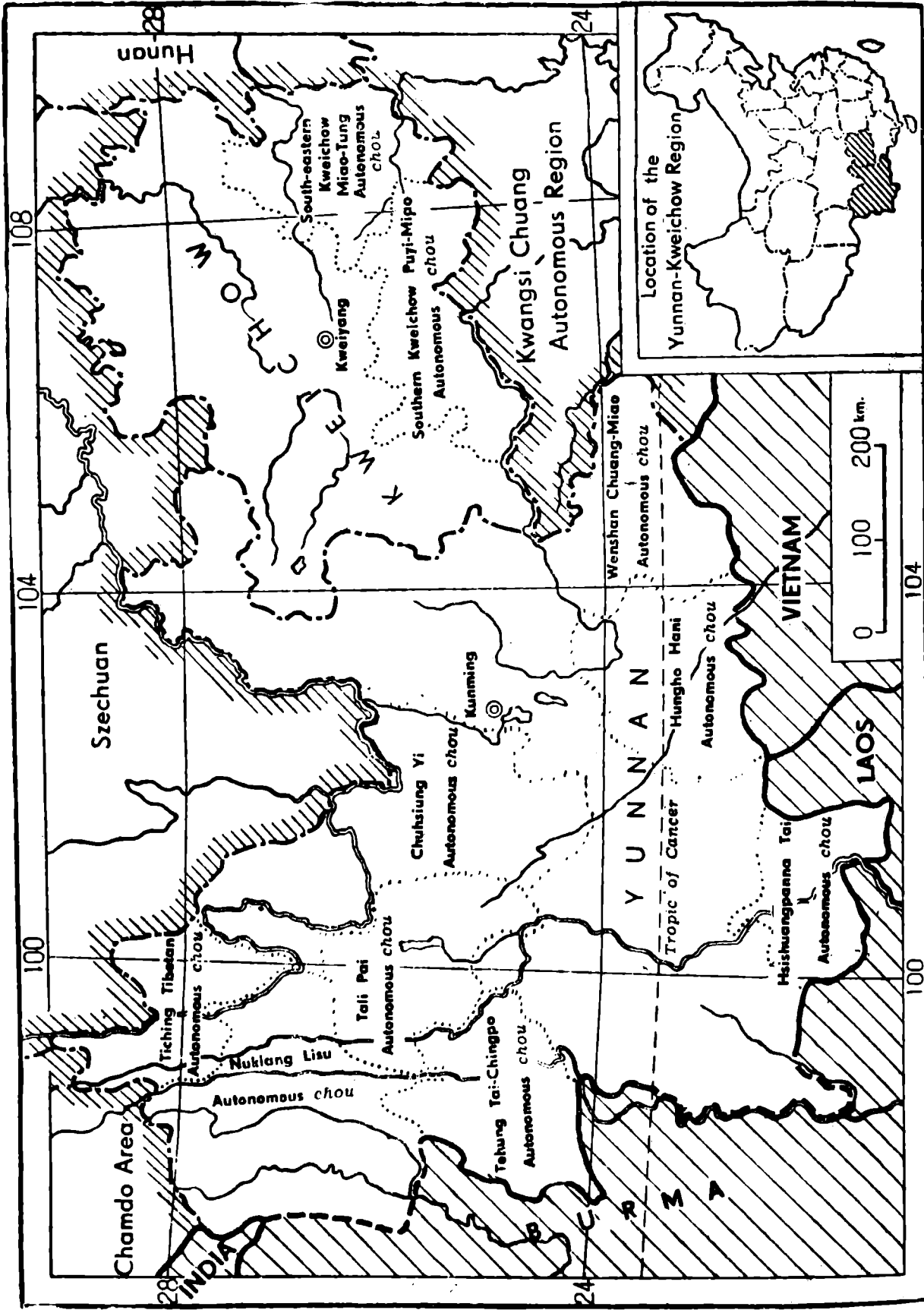
### Location and Physical Features

The south-west provinces of Yunnan and Kweichow have a combined area of 610,000 square kilometres. Yunnan adjoins Vietnam and Laos in the south, and Burma in the west. Although the southern part lies within the tropics, Yunnan is not hot in summer because of its high altitude.

To the north-west, the region rises to the massive Tibetan Plateau, and in the south-east it borders the South Yangtse Hills and the Kwangtung-Kwangsi Hills.

**The Yunnan-Kweichow Plateau.** The plateau covers the whole of Kweichow and eastern Yunnan (east of the Yuan Kiang valley). Its elevation gradually decreases from about 2,000 metres in the west to less than 1,000 metres in eastern Kweichow. Among the major mountain ranges are the Talou Mountains in northern Kweichow, which form a watershed between the tributaries of Wu Kiang and the Yangtse. The mountain area in southern Kweichow, crowned by Mount Yunwu, is the divide between the Wu Kiang and the Si Kiang.

Scattered throughout the plateau are small plains and valleys. These small upland plains are locally called *pa-*



108  
104  
100

28  
24

Hunan

South-eastern Kweichow Miao-Tung Autonomous CHOU

Kweiyang

Southern Kweichow Puyi-Mipo Autonomous chou

Kwangsi Chuang Autonomous Region

Szechuan

Chuhsiung Yi Autonomous chou

Kunming

Wenshan Chuang-Miao Autonomous chou

YUNNAN

Hungho Miao Autonomous chou

VIETNAM

LAOS

Tropic of Cancer

Chamdo Area

Tiching Tibetan Autonomous chou

Nuklang Lisu Autonomous chou

T'ai-Pai Autonomous chou

Tehung T'ai-Chingpo Autonomous chou

Hsihuangpenna T'ai Autonomous chou

INDIA

tse, where the highland people live in compact communities and farming is developed.

Like Kwangsi, the plateau also has a karst landscape. In the region are spectacular yet picturesque limestone hills with precipitous slopes and even overhanging cliffs; columns of spires, circular sink holes, caverns and subterranean channels. Clear streams suddenly disappear only to re-emerge from underground some distance away. Natural limestone bridges span many rivers.

Rivers here flow through gorges flanked by high, precipitous cliffs. Where there are fissures in the rock formation, the rivers become roaring and fuming waterfalls. The largest is the Huangkuoshu Waterfalls in Chenning County, Kweichow Province.

Rivers rise in the central part of the plateau and spread in all directions. The largest is the Wu Kiang, which drains the northern half of Kweichow, and empties into the Yangtse in Szechuan to the north. Those flowing eastward are mostly headstreams of the Yuan Kiang in Hunan. Many rivers descend in the south of the plateau, and are received by the upper course of the Si Kiang. Those in north-east Yunnan join the Chinsha River (upper Yangtse) on the Szechuan-Yunnan border.

**Western Yunnan Canyons.** In western Yunnan, several chains of high north-south mountains run parallel to each other. They include the Yunling, the Nu Shan and the Kaolikung. The altitudes of these mountains decrease from 4,000 metres in the north to less than 2,000 metres in the south. They are collectively known as the Heng-tuan Mountain Range.

In between these mountain ranges race many big rivers. They are, from east to west, the Yuan Kiang (upper course of the Red River in Vietnam), the Lantsang



River, the Nu Kiang and the upper Irrawaddy.<sup>1</sup> So high are the mountains through which these rivers cut, and so deep the valleys, that the distances between the mountain peaks and the valley floors often exceed 2,000 metres. Where the river valleys are narrowest, two people standing on the summits on both banks can nearly hear each other, but if one wishes to meet the other, it will often take him a whole day climbing down and uphill. The currents are so swift as to make the rivers unnavigable. Overhanging rope bridges are common for passage. These rivers are sources of enormous water power for the economic development of South-west China.

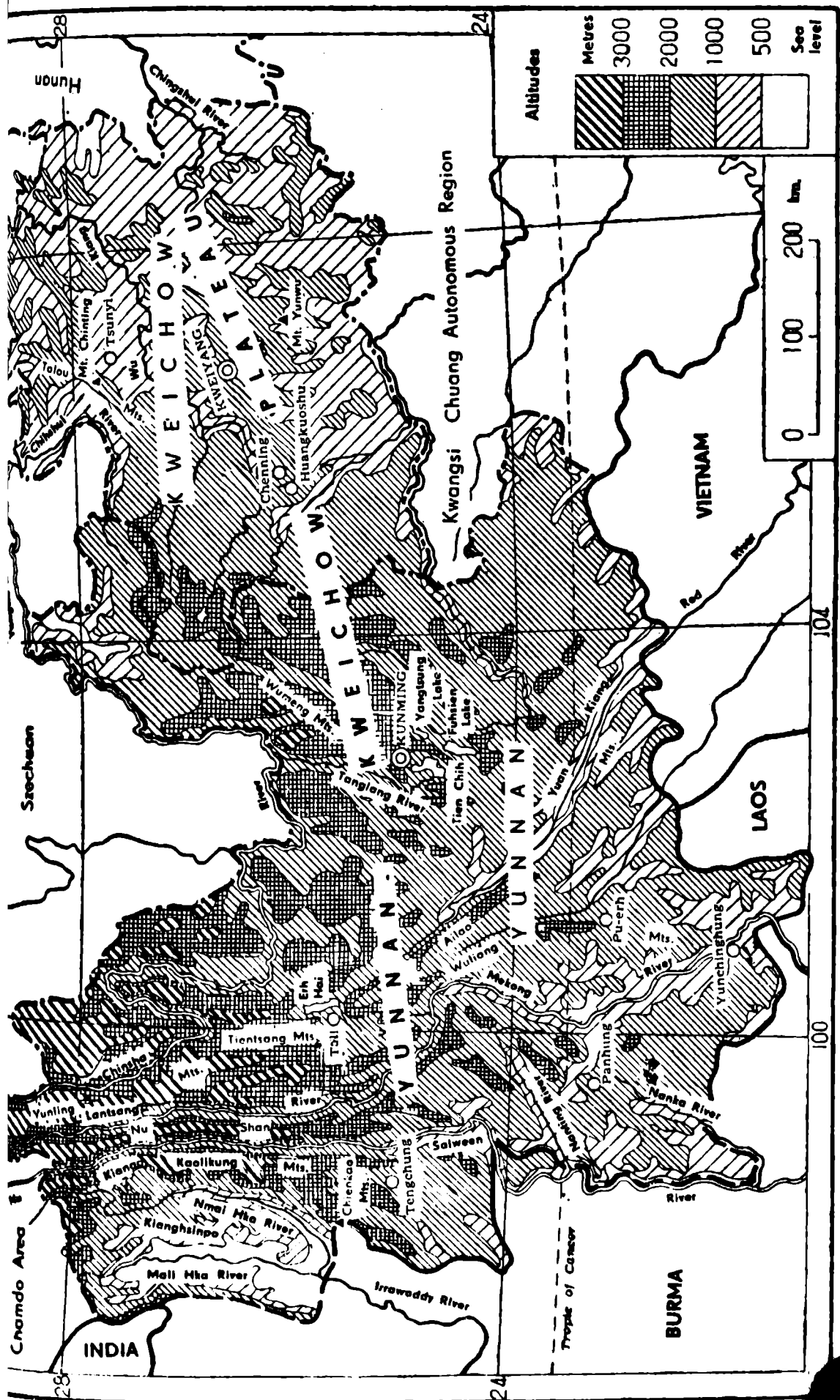
As the mountain ranges descend southward, in southern Yunnan, the river valleys of the Lantsang around Pu-erh and Yunchinghung are only seven hundred metres above sea level and those of the Yuan Kiang are no more than four hundred metres. Here the valleys are more open, with many upland plains and fertile irrigated fields. It is here that the Tais, Lisus and many other minority peoples make their homes.

**Fault Lakes and Earthquakes.** Fault traces are common in Yunnan. Some places have been faulted into grabens, and when these are filled with water they become lakes, as in the case of the lake Tien Chih in Kunming and the lake Erh Hai in Tali. These rippling lakes surrounded by high mountains are noted for their beautiful scenery.

Mountain ranges in Yunnan have been the results of violent folding. Earthquakes are recurrent, because the

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<sup>1</sup> The Lantsang River is the upper Mekong. When the Nu Kiang enters Burma, it becomes known as the Salween. The Irrawaddy has two headstreams: the Nmai Hka in the east and the Mali Hka in the west.



**Topography of the Yunnan-Kweichow Region**

earth crust, formed as it was at a later geological age, is not yet stable, and because of the effect of faulting in various places.

## Climate, Soils and Vegetation

Most of the Yunnan-Kweichow Region is neither cold in winter nor hot in summer, and temperature variations throughout the year are relatively small. Its eastern part is under the influence of the Pacific monsoon, while its south-western portion is accessible to the monsoon from the Indian Ocean. This accounts for its moderate rainfall, though the region is not near to the sea. Average annual rainfall for most places ranges between 1,000 and 1,200 mm., largely concentrated in summer.

**Highland Climate and Vegetation.** Lying within the same latitudes as Kwangtung, Kwangsi and Fukien, and shielded by mountain barriers in the north, the Yunnan-Kweichow Plateau is warm in winter. Average January temperatures for Kweiyang and Kunming are 4.2° and 9.6° C respectively. Summer is not hot because of high altitude. July temperature averages but 24.6° C in Kweiyang, and 20.1° C in Kunming.

As far as temperatures are concerned, Kunming is devoid of summer, with autumn succeeding lengthened spring to last a total of roughly ten months. On the other hand, Kweichow has the largest number of overcast and rainy days a year of all provinces in China. It is cloudy or foggy seven or eight days out of ten. Especially in winter, the sky is invariably overcast, and drizzling

rain is the rule. The province "rarely has three successive sunny days," as a local saying goes.

A different climatic condition, however, exists in Yunnan, where there is little cloud in winter, and thick fog is found only in the upland plains at night. The weather is balmy and fair, with plenty of sunshine. When summer showers are over, it is refreshingly cool, and the sky is clear and blue. In brief, Kunming and its neighbourhood make ideal places for rest homes.

Unlike other sub-tropical areas where red earth predominates, Kweichow has yellow soil in most of its places, because of its great humidity, lower temperatures and the incomplete oxidation of the iron content in the soil. Topsoil in Kweichow is generally very thin, and rocks even crop out in some places. Only in the upland plains are there thicker layers of soil. Most of eastern Yunnan and south-eastern Kweichow is characterized by red soil.

Natural vegetation in the Yunnan-Kweichow Plateau is principally of mixed broad-leaf deciduous and coniferous forests, intermingled with a small number of evergreen broad-leaf trees. Tall grass grows in between trees, and moves in to take over where woods have been destroyed. Undeveloped mountains and river valleys are covered with luxuriant vegetation.

**Western Yunnan's Climate and Vegetation.** Because of its topography of high mountains and deep valleys, the canyon region of western Yunnan is characterized by a vertical zonality of climate, soils and vegetation.

Take the Tientsang Mountains, north of Tali, as an illustration. At the point below 2,000 metres above sea level, red soil predominates on which tall and lush sub-tropical evergreen trees thrive. Higher up to 3,700

metres, mountain meadow soil prevails where only low azalea and cold-resistant grasses can flourish. In the south of the canyon region, that is, south of the Tropic of Cancer, low-lying, open river valleys are favoured with humid and warm weather. Bananas, coconuts, silk-cotton trees and tea are grown. Domesticated elephants are also common.

The canyons of western Yunnan are a botanical garden of national fame. Everywhere, mountains and wilderness not excepted, is a sea of gorgeous flowers, notably the azalea, camelia, rose and fairy primrose.

In the tropical forests wild animals including monkeys, bears, elephants and porcupines abound, and they often intrude into the ripening crops in the settled areas.

## Inhabitants and Economic Development

Most of the region's population, totalling some 32,500,000, is concentrated in the *pa-tse* and flood plains of the Yunnan-Kweichow Plateau, while the canyon section of western Yunnan is sparsely settled.

Scores of nationalities live in the region. The more populous among them are the Miaos and Puyis (both largely in Kweichow), and the Yis, Tais, Hanis and Lisus (mostly in Yunnan). In the old days, these minority peoples, like other national minorities, were ruthlessly oppressed and driven into the high mountains, where they led a wretched life, lacking in food, salt and clothing. Divided by the reactionary rulers, distrust and hostility were prevalent among the different tribes and nationalities, and disputes and clashes were frequent among them.

All this is now no more. Politically, most minorities here have carried out regional autonomy, and manage their own affairs. Major autonomous *chou* in Yunnan include one for the Tai people in Hsishuangpanna, one jointly for the Tai and Chingpo peoples in Tehung, one for the Lisu people in the Nu Kiang area, and one for the Pai people in Tali. In Kweichow there is a Puyi autonomous *chou*.

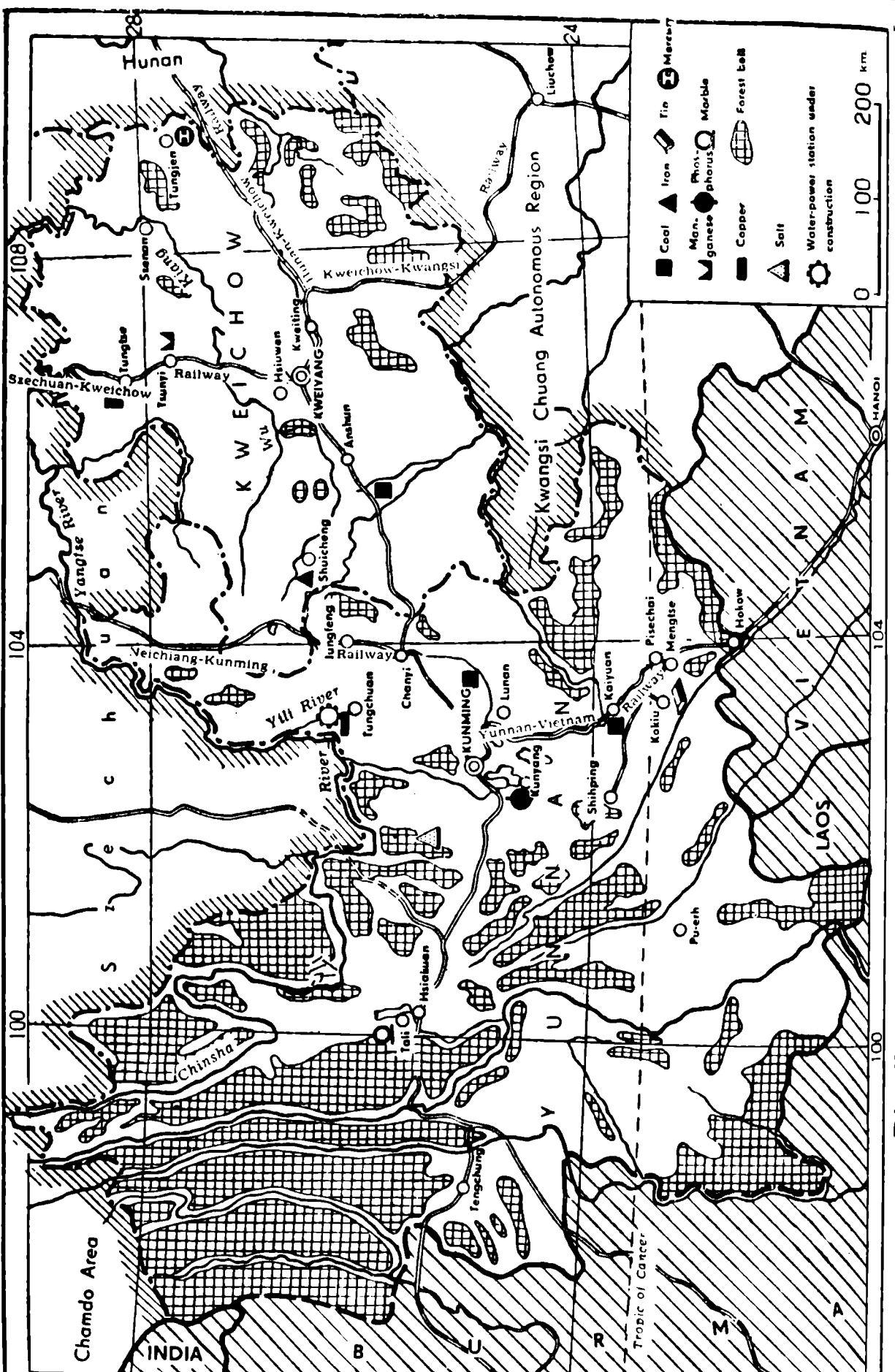
The many different nationalities in Yunnan are now living in harmony; they help one another, and have all made great strides in their economic, trade, cultural and educational development. Their life improves steadily.

**Economic Progress.** The Yunnan-Kweichow Region is predominantly agricultural, with little industry to speak of. This, too, is an unwelcome legacy left behind by the past feudal warlords and the Kuomintang regime.

The region has much virgin land; that which is already under cultivation is mostly found in the upland plains, where rice constitutes the major crop. Wheat, soya beans, maize, and sweet potatoes are raised in mountain areas.

Tobacco is produced in Kweichow, and Kweiting offers the best kind. The tea of Pu-erh in Yunnan is of national renown. Tung-oil trees are widely grown in eastern Kweichow. In western Yunnan are located some of China's major timber stands, many of which remain untouched. There are tropical forests in southern Yunnan, yielding teak, the best timber for shipbuilding.

Among the region's mineral resources are tin, copper, cinnabar, manganese and coal. Tin is produced chiefly in Yunnan's Kokiou, which is known as China's tin city. It has both the largest reserves and the largest output. The copper mine of Tungchuan, Yunnan Province, is



Distribution of Mineral Resources in Kweichow-Kwangsi

one of the biggest in China. The country's largest phosphorous mine is located near Kunming. Cinnabar is chiefly produced at Tungjen in eastern Kweichow and a rich manganese mine has been found near Tsunyi. Recently vast coalfields were discovered in Kaiyuan, Yunnan, and west of Anshun, Kweichow Province. These coalfields are of paramount importance to the industrial development of the region. Tali in Yunnan is noted for its beautiful marble, a highly decorative building material.

## Communications and Cities

**Communications.** The two remote provinces of Yunnan and Kweichow were backward in communications in pre-liberation days. Of the few railways then existing, only the Kunming-Hokow section of the Yunnan-Vietnam Railway was of any importance. Apart from the 3,000-kilometre Fukien-Yunnan Railway which will cut across both Kweichow and Yunnan, other trunk railways now under construction include one connecting Kunming with Neichiang in Szechuan, another between Kweiyang and Chungking, and still another linking Kweiyang with Liuchow in Kwangsi. Two projected rail lines will connect Kweiyang with Chuchow in Hunan, and Kunming with Chengtu via Sichang in Szechuan. The war-damaged Kunming-Hokow Railway was reconstructed and opened to traffic in 1957. It is the second railway linking China with Vietnam. Once these new lines are completed, the South-west will be equipped with a comprehensive rail network, and through train traffic may reach Kunming from Peking and major coastal ports.



With only a few exceptions, all rivers in the region are unnavigable because they are studded with reefs and treacherous rapids. Many reefs in the Wu Kiang have been blasted and removed since liberation, and motor launches can transport goods upstream as far as Kungtan on the Szechuan-Kweichow border.

At present, the region relies chiefly on highways for transport. Major roads include one between Kunming and Luchow in Szechuan, another between Kweiyang and Chungking; one between Kunming and Kweiyang, and another between Kweiyang and Hochih in Kwangsi. Buses ply between major cities in Yunnan and Kweichow.

**Major Cities.** Kunming, the provincial capital of Yunnan, is also a communication centre, with highways leading to Szechuan in the north, to Kweiyang in the east, and to the important frontier town of Tengchung in the west, passing through Tali and Hsiakuan in western Yunnan. Two railways start from Kunming, one to Hokow on the Sino-Vietnamese border in the south, and a shorter one to Chanyi in the east. Regular planes take off from the provincial capital to Mandalay and Rangoon in Burma, and also to Chungking, Canton and Nanning inside the country. Situated on the north shore of the lake Tien Chih, Kunming is bestowed by Nature both with splendid scenery and a climate of perpetual spring.

Kweiyang, the provincial capital of Kweichow, is in the heart of the province, from where many highways radiate, the most important being the Kweiyang-Chungking and the Kweiyang-Hochih (Kwangsi) roads.

T'sunyi is an important city in northern Kweichow, on the Kweiyang-Chungking Highway. It is the site of an historic meeting held by the Chinese Communist

Party in 1935 after the Red Army had crossed the treacherous Wu Kiang in its famous Long March. The meeting established a new central leadership headed by Mao Tse-tung, which has since led and is now leading the Party and the Chinese people from victory to victory.

## CHAPTER SIXTEEN

# THE SZECHUAN REGION

### Location and Physical Features

Szechuan Province, with a territory of 570,000 square kilometres, borders on Yunnan and Kweichow in the south, and Shensi, Kansu and Chinghai in the north. These diverse parts are knit together by the Paochi-Chengtú Railway, the Chengtu-Chungking Railway and by highways. To the west of Szechuan is the mountain-locked region of Tibet, and to the east stretch densely-peopled low hills and plains along the middle Yangtse. Here again, these areas with totally differing natural environs are linked up by the Yangtse River and the 2,270-kilometre highway from Yaan to Lhasa.

**Compact Szechuan Basin.** Although eastern Szechuan is surrounded by mountains and highlands, the central part of it is a low-lying area with hills and plains. Taken together, these encircling highlands and the enclosed flat lowlands form a self-contained basin, commonly referred to as the Szechuan Basin. According to geologists, the Szechuan Basin had been a big lake which dried up and ages of erosion and river deposition gave it its existing formation. The brine wells are a relic of the big ancient lake.

Of the huge mountains fringing the Szechuan Basin, the Min Shan and Chiunglai are to the north-west, the Tapa to the north, the Wu Shan to the east, the Taliang to the west and the Yunnan-Kweichow Plateau to the south. Most of these ranges are above 1,000 metres in height. The Min Shan and the Chiunglai mountains are the most majestic. Rising to 3,000 metres for the most part, they serve as massive climatic barriers.

Situated on the south-western margin of the Szechuan Basin, the 3,030-metre Omei is famous for its ancient temples and pine woods. It offers a number of ideal health resorts where summer is as pleasant as late autumn. The Wu Shan Mountains to the east of the basin are made up of limestones that have been eroded to form numerous strange-looking and yet beautiful peaks as well as many deep ravines. These combine to present a fascinating landscape to entertain travellers sailing along the Yangtse Gorges.

In the basin proper are a number of fertile plains, the biggest of which is called the Chengtu Plain. This latter is cut by a dense network of waterways, especially along the section where the noted Tukiang Dam is located. The rice fields are shaped like squares on a chessboard. Everywhere one can hear the water gurgling like music; everywhere are bridges and water-driven mills. River banks are lined with numerous bamboo groves which are also found on the edges of villages. Whether in summer or winter, the scene is invariably one of lush green. The Chengtu Plain is almost as thickly settled as the lake Tai Hu basin in East China.

The rivers on the Chengtu Plain are mostly tributaries of the Min Kiang that descends from the Min Shan Mountains. Before reaching Kuanhsien, the Min Kiang

crashes through deep mountain valleys. Its surging rapids are greatly erosive and carry an enormous amount of silt and gravel. But below Kuanhsien the silt and gravel have been gradually deposited to make a big alluvial fan.

For thousands of years, the industrious Chinese peasants have been cultivating the fertile Chengtu Plain. They made the Min Kiang flow into many smaller streams both for irrigation and for driving water mills. This is the chief reason why the Chengtu Plain can carry such a dense population and produce such an abundance of products.

The overwhelming part of the Szechuan Basin, however, consists of hilly lands. The hills west of the Chu Kiang in eastern Szechuan are lower, being no more than 500 metres above sea level in most cases, and have easy gradients. Their slopes are covered with a thick layer of soil, as are the smaller hilltops.

The scale-like terraced fields on the slopes are irrigated with water diverted from mountain streams. These terraced plots, when filled with water in summer, look like countless dazzling mirrors under sunshine. Coupled with the small streams flowing through the mountain-backed valleys, they present a beautiful rural scene.

Some big mountains are found east of the Chu Kiang. Coal-bearing strata have been exposed on the tops of some of them. There are many gorges notably along the Chialing River near Chungking and along the Yangtse.

**Highlands in the West.** The highlands in western Szechuan are a part of the Tibetan Plateau. Extending from the Chiunglai and Taliang mountains in the east to the Chinsha River in the west, the highlands average



3,000 metres above sea level. The southern part of the highlands, the south-eastern section of Tibet that is traversed by the Nynchen and Nu Shan mountains, and the canyons in western Yunnan, all belong to the area of the Hengtuan Mountain Range. The torrential rivers provide a potential source of water power. It has many peaks capped with snow all the year round, the highest being the 7,500-metre Mount Minya Konka of the Tahsueh Mountains.

The northern part of western Szechuan near Chinghai Province has a greater average elevation than its southern part; it forms a plateau and serves as a vast pasture carpeted with tender green grass in summer.

## Climate, Soils and Vegetation

**Climate of the Szechuan Basin.** The climate of the Szechuan Basin is marked by three characteristics. First, it has a high temperature and water seldom freezes in winter. January average is, in most cases, above 4° C and it even reaches 8° C or higher in some places along the Yangtse. (Average temperature for the same month is mostly below 4° C in provinces along the middle and lower Yangtse.) July is the hottest month for Szechuan when the mean temperature in the basin itself is 24° C or above and the thermometer even reads 40° C in places along the Yangtse in eastern Szechuan. The long growing period which continues for more than ten months greatly favours agricultural development.

Szechuan Basin's climate is explained by its topographical features. In winter, the high mountains and highlands in the north and north-west serve as effective

barriers against the continental, arctic cold wave. Also, the terrain, sloping from north to south, forms a vast tract that gets the maximum of sunshine.

Also the basin enjoys abundant rainfall. Although it is far from the sea, the moist air from the south-eastern seaboard reaches the area. Barred by the Min Shan and the Tapa mountains in the north, such moist air is condensed and precipitated. In most places, the average annual rainfall is 1,000 mm. The Omei Mountains along the western margin get the greatest amount — more than 3,000 mm.

Fog and cloud are common. Owing to high humidity, the Szechuan Basin has much mist, fog and cloud, especially in the southern areas along the Yangtse and the lower Min Kiang. In the vicinity of Chungking, there are only four months of sunny weather, the rest of the year being foggy and cloudy. It is even worse in places along the lower reaches of the Min Kiang. Mist is particularly thick in winter mornings, the whole place being shrouded, with the sun shining like a red lantern hung in mid-air.

**Climate of Western Highlands.** Generally speaking, the temperature in western Szechuan is lower than that in the basin and rainfall is less. Temperature is especially low in the northern part of western Szechuan, the January average being below zero and, in some places, as low as minus 4°C. The July temperature does not rise much beyond 20°. With an annual rainfall of 500 mm. or so, the area is virtually semi-arid. Compared with the northern part, weather is warmer and rainfall more abundant in the canyon area to the south.

**Soils.** The Szechuan Basin is overwhelmingly underlaid with sandstones and shales, ranging from red to



purple in colour. The yellow soil of the basin is very fertile, loose and easily ploughed. Soils in the mountain areas around the basin and in the western highlands are mostly grey brown podzolic soil and alpine steppe soil.

**Luxuriant Vegetation.** The warm, humid climate of the Szechuan Basin and its fertile soil account for the lush growth of natural vegetation, consisting mainly of mixed evergreen and summer-green forests. Travelling west along the middle Yangtse, through the Yangtse Gorges and into the Szechuan Basin, everywhere to be seen are stretches of lovely green trees and shrubs. Tall *figus lacor*, citrus trees heavily laden with fruit, emerald-green bamboo groves, tea gardens, sugar-cane and wood-oil trees form an almost unbroken procession.

The mountain areas surrounding the Szechuan Basin and the highlands in the west, however, present a different landscape. In the main, broad-leaf forests are found at the bottom, mixed forests in the middle, and conifers and steppes at the top. According to botanists, Szechuan has more than a thousand species of plants.

## Rivers and Their Utilization

Szechuan's rivers are distinguished by three features. First, they all join the Yangtse. Second, all have a heavy flow. Third, most of them have shoals and rapids, and form gorges with the flanking mountains, providing favourable hydro-power resources.

**The Yangtse River.** Rising in Chinghai Province, the upper Yangtse, namely, the Chinsha River, passes the Szechuan-Tibet border and winds its way south until at the northern end of Yunnan it makes a right-angled turn

to the east and enters the Szechuan Basin. Then it cuts through the three menacing Yangtse Gorges and heads for the Middle Yangtse Region. Important local tributaries include the Yalung, Min Kiang, Chialing and Chien Kiang. The Yangtse carries a large amount of water so that, east of Ipin, its main course and the lower reaches of its bigger tributaries are navigable for steamers, and it becomes the artery of water transport for the whole of Szechuan. Since the lion's share of goods, incoming and outgoing, is handled over the Yangtse, Szechuan's important trading centres, such as Chungking, Wanhsien and Luchow, are situated along its banks.

West of Ipin, however, the Chinsha River and its tributaries are unnavigable because they flow at a great speed. Here, it is even difficult to ferry across the river and, in the past, iron-chain suspension bridges or cow-hide boats<sup>1</sup> were used for the purpose. The most dangerous of them was the Luting Bridge spanning the Tatu River, for the control of which the Chinese Red Army fought heroically in its Long March from Kiangsi to Shensi during 1934-35. In order to force a crossing of the slippery bridge under close enemy fire, the undaunted revolutionary fighters overcame inconceivable difficulties and smashed the blockading Kuomintang forces and thus opened the way to victory. But now a steel bridge has been built over the Tatu River for motor traffic.

This section of the Yangtse is rich in water resources. Apart from the Yangtse Gorges that hold enormous pos-

<sup>1</sup> This sort of boat is made of cow-hides stretched over wooden frames. Pitch is applied where the hides are sewn. In the shape of a round basket, the boat can carry four or five persons and is an ideal device for crossing torrential rivers.

sibilities of hydro-power generation, the Chinsha and Tatu rivers west of Ipin are also ready for such purpose. When fully exploited, these rivers can render a great service to the development of Szechuan.

**The Min Kiang and Tukiang Dam.** Having its head-water in the Min Shan Mountains, the Min Kiang is not navigable north of Kuanhsien because of the swift flow. South of Kuanhsien, however, it enters the plain and flows at reduced speed.

As far back as 2,000 years ago, Li Ping, prefectural governor of Shu (central Szechuan) during the period of Warring States (403-221 B.C.), led the people to build an irrigation system along the Min Kiang at Kuanhsien. The river was divided into the Inner River in the east and the Outer River in the west, with the latter representing its main course. These, in turn, branched out into many larger and smaller lateral streams for irrigation. To check flood, a regulation dam was built of mountain-derived boulders contained in bamboo baskets. This huge water conservancy project that came to be known as the Tukiang Dam had the effect of distributing the flow of the Min Kiang and thus eliminating flood in the summer high-water season. It also helped to bring water to the fields on the Chengtu Plain. Li Ping's words, "Dig the channel deep, keep the dam low," are remembered to this day by the peasants who continue to keep the project functioning and improve it each year. Thanks to the People's Government that has sent large quantities of materials and groups of technicians to the site in the last few years, and thanks to the active maintenance carried out by the local people, the irrigated acreage covered by the Tukiang Dam has been increased from 200,000 to 400,000 hectares.

Except for a part of the Inner River that joins the To Kiang, the many tributaries of the Min Kiang meet again after leaving the Chengtu Plain. At Loshan, the volume of Min Kiang's water swells when it receives a bigger tributary, the Tatu River. Then it empties into the Yangtse at Ipin. The Min Kiang is navigable for motor launches between Loshan and Ipin. As a result of the dredging done after liberation, small steamers can also ply between Loshan and Chengtu during the high-water season in summer and autumn.

**The Chialing River.** The Chialing River zigzags into Szechuan from southern Kansu where it emerges. Its volume of water increases considerably when it takes in its two main tributaries, the Fu Kiang and Chu Kiang at Hochuan. After forcing its way through a number of picturesque gorges, the Chialing joins the Yangtse at Chungking. Below Hochuan, the Chialing is navigable for small steamers throughout the year.

## Inhabitants and Economic Development

**Inhabitants.** Szechuan ranks first among China's provinces in terms of population—65 million in all. Distribution is rather uneven, with the overwhelming majority concentrated in the basin proper where the population density is 600 or more per square kilometre. The mountain areas around the basin are thinly settled, especially the highlands in the west that are inhabited by Tibetans, Yis and Chiangs; population density never exceeds 15 per square kilometre in most cases. Since liberation, national autonomous *chou* and counties have been set up in places where the Tibetan and Yi peoples

live in compact communities. Local natural resources have been gradually exploited, living standards steadily raised, and medical and health services continuously improved, and signs of population increase are already evident.

**Agriculture.** Szechuan boasts a rich store of agricultural products. Almost everything grown elsewhere in the country can be raised there. Among Szechuan's major food crops are rice, wheat, maize, highland barley and sweet potatoes. Rice and wheat are chiefly cultivated in the basin proper, with the Chengtu Plain claiming the most bountiful harvests. Maize and sweet potatoes are grown in the plains and hilly and mountain areas. A staple food for Tibetans, the drought- and cold-resistant highland barley prospers mainly in the western highlands. Szechuan's most important commercial crops include rape, sugar-cane, tobacco and tung tree. Its output of rapeseed is the highest in China. Sugar-cane is grown mainly in the To Kiang basin. Of an excellent quality, Szechuan's tobacco is concentrated in the Chengtu Plain. Tung trees dominate the hilly areas in the east, with Wanhsien and Chungking serving as the collecting and distributing centres of tung oil. Szechuan also produces cotton, hemp, tea, citrus fruit, medicinal herbs, etc.

The Szechuan Region has rich virgin forests, mostly found in the western highlands.

Apart from their meat, Szechuan pigs supply top-quality bristles that constitute one of China's export items. Natural mountain pastures in western Szechuan support large numbers of cattle, yaks, sheep and horses. Hides and skins and wool are important products. There are also many kinds of wild animals in this part of Szechuan, among them being the world-famous pandas,

deer and musk-deer. Pandas are unique to this particular area.

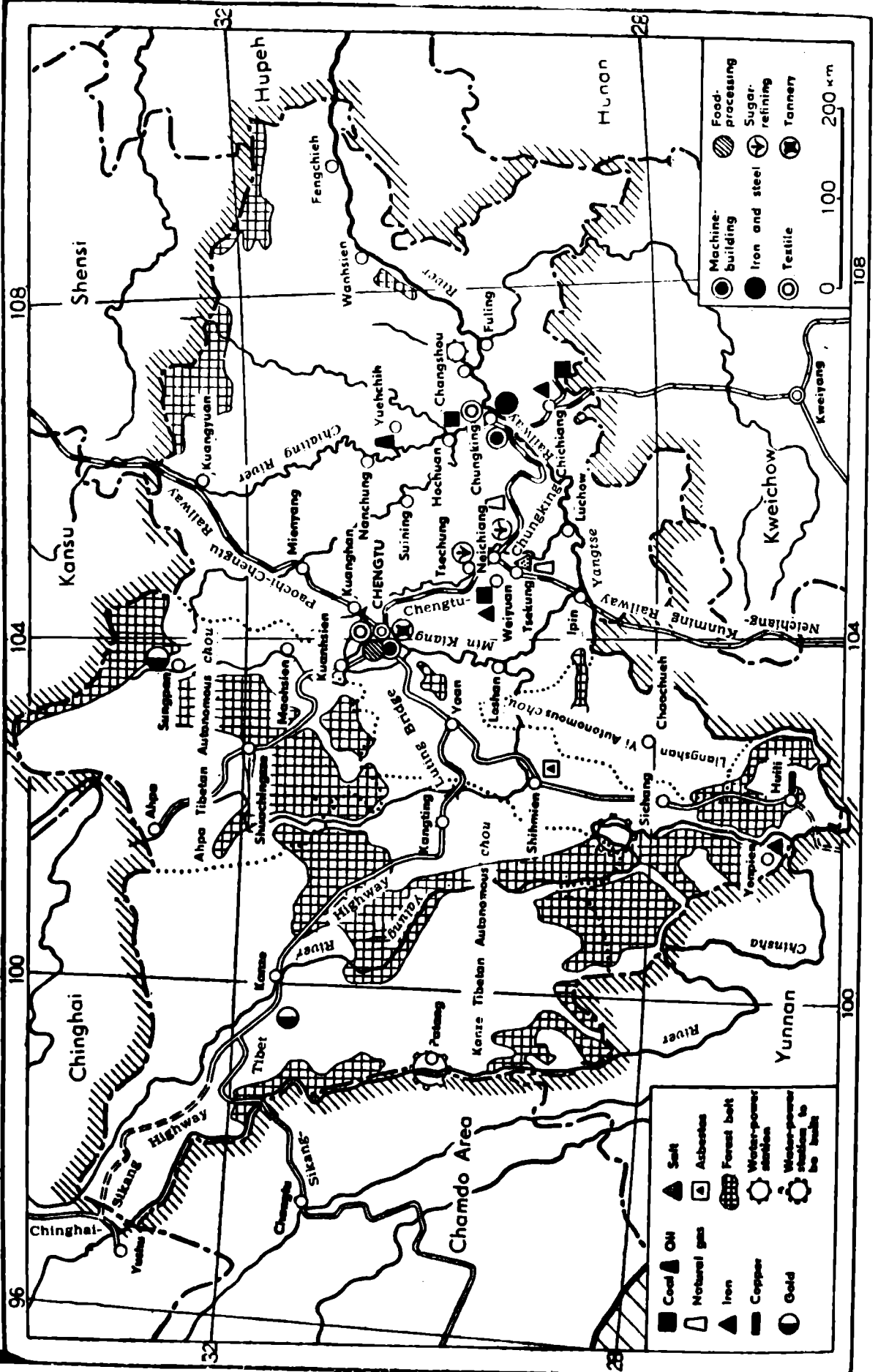
**Industrial Development.** Szechuan is favoured with the basic prerequisites for industrial development. In addition to its numerous population and vast resources of raw materials for light industries, it has a sure supply of motive force — water power, coal, petroleum and natural gas — and huge deposits of iron-ore and salt. Besides the Yangtse Gorges, the Chinsha River (upper Yangtse) and the tributaries of the Yangtse — the Min Kiang, Chialing and Yalung — can all produce an enormous amount of power. Hydro-electric stations have already been completed in Changshou and Omei counties.

Among China's south-western provinces, Szechuan ranks first in coal reserves. They are widely distributed, though the leading centres are located in the east and south. At present, most of the big collieries are in the vicinity of Chungking.

Oil occurs in the basin proper, and intensive prospecting is going on in central Szechuan. Oil has flowed from many of the test wells in Nanchung and Yuehchih.

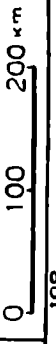
Szechuan is noted for its brine wells whose product meets most of the salt requirements of South-west China. Such salt is produced mainly in the basin proper, Tsekung being the biggest centre contributing about half of the output. Some of the brine wells are also called "gas wells," because apart from salt water they yield natural gas that is piped and used for evaporating the brine or as a convenient motive force for other branches of industry.

Szechuan is richly endowed with iron-ore deposits that are mined chiefly in Chichiang near Chungking and in Weiyuan. The newly discovered big iron-ore reserves



- Coal
- ▲ Oil
- Natural gas
- ▲ Iron
- ▲ Copper
- Gold
- ▲ Salt
- Asbestos
- ▣ Forest belt
- ⊗ Water-power station
- ⊗ Water-power station for flood

- Machine-building
- Iron and steel
- Textile
- ⊗ Food-processing
- ⊗ Sugar refining
- ⊗ Tannery



in Panchihhua, Yenpien County, near the Szechuan-Yunnan border, can satisfy the need of an iron and steel base. Coal-fields lie close to local iron mines that are connected by waterways and motor roads with the former. Thus Chungking is being made the centre of heavy industry — iron and steel, machine-building, electric power, etc.

There are rich copper and lead-zinc deposits in Huili, asbestos of high quality in the vicinity of Shihmien and gold in the Sungpan highland.

In light industries, sugar refining and textiles take the lead. The former is concentrated in Neichiang and Tsechung while the latter is most developed in Chengtu and Chungking. The brocade made in Chengtu and the satin produced in Chungking enjoy national fame.

## Communications and Cities

**Chungking.** Situated at the confluence of the Yangtse and Chialing rivers, Chungking is like a peninsula — surrounded by water on three sides. It is this hilly city that functions as the traffic hub for the whole of Szechuan. Sailing east from Chungking along the Yangtse, one can reach eastern Szechuan's trading centre of Wansien; then the steamer makes its way through the Yangtse Gorges and heads for Wuhan and Shanghai. Westward along the Yangtse, the traveller can reach the important cities of Luchow and Ipin in southern Szechuan; a small steam-boat can bring him as far as Loshan and Chengtu. Going north from Chungking along the Chialing River, smaller ships can reach Hochuan; when



water is high, they can sail right up to Suining and Nanchung.

Chungking is linked up with Szechuan's second biggest city of Chengtu to the west by a railway. In the south, the Szechuan-Kweichow Railway now under construction will connect Chungking with Kweiyang. Besides, there is a network of highways running between Chungking on the one hand and Hupeh and Hunan on the other. The city is also knit together with China's other major cities such as Peking, Wuhan, Shanghai, Canton and Kunming by regular air services. It acts as a converging point for a large portion of goods sent to Tibet, Yunnan and Kweichow. Small wonder, then, Chungking has grown into the biggest industrial and commercial centre west of Wuhan.

**Railways.** The 505-kilometre Chengtu-Chungking Railway is Szechuan's rail artery. It was first planned forty years ago. To get its track laid, the Szechuan people contributed large sums of money in the old days. But the money went to the enrichment of the reactionary rulers and not a single rail was put into place. After liberation, the whole line was completed in the short space of two years, and opened to traffic on July 1, 1952. This railway has created favourable conditions for the economic construction of Szechuan and all the other south-western provinces. The day of inauguration of the Chengtu-Chungking Railway was marked by the ground-breaking for another line, the Paochi-Chengtu Railway. This 668-kilometre trunk line met the Lunghai Railway on July 13, 1956. In one of his poems, Li Po (701-762) wrote: "The road to Szechuan is more difficult to climb than to climb the steep blue heaven." But in present-day China when the people have taken

power into their hands all difficulties are overcome: the Tapa and Chinling mountains have given way to train traffic.

**Chengtu.** Travelling north-west from Chungking along the Chengtu-Chungking Railway, one reaches Szechuan's beautiful provincial capital of Chengtu after the train speeds past the "sugar cities" of Neichiang and Tsechung. Surrounded by a far-extending fertile plain and crossed by the limpid tributaries of the Min Kiang, Chengtu resembles Soochow beyond the lake Tai Hu in scenery, with murmuring streams flowing under tiny bridges. The city embraces a number of places of historical interest, such as the temple dedicated to Chuke Liang (181-234), who served as premier of the Shu State during the period of the Three Kingdoms, and the thatched cottage where the famous Tang poet Tu Fu (712-770) once lived.

Chengtu has been known for its light industries, chiefly food-processing, textile and leather-making. Now, machine-building and precision instruments industries are being rapidly developed. Apart from serving as the railway centre of Szechuan, Chengtu is one of Szechuan's motor traffic centres that is linked up with the vital Sikang-Tibet Highway. Starting in Yaan west of Chengtu and reaching its terminus of Lhasa through Kangting, this highway is the most important of the three existing motor roads connecting Tibet with other parts of the country.

## CHAPTER SEVENTEEN

# THE TIBETAN REGION

### Natural Environment

The Tibetan Region includes Tibet and the Chamdo Area totalling 1,200,000 square kilometres.

Situated in the south-western part of China, Tibet borders on India and Nepal with the Himalaya Mountains as the boundary.

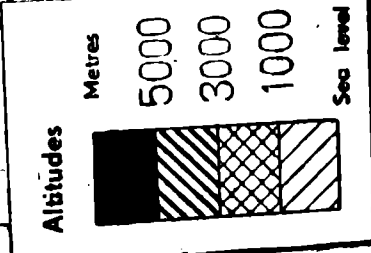
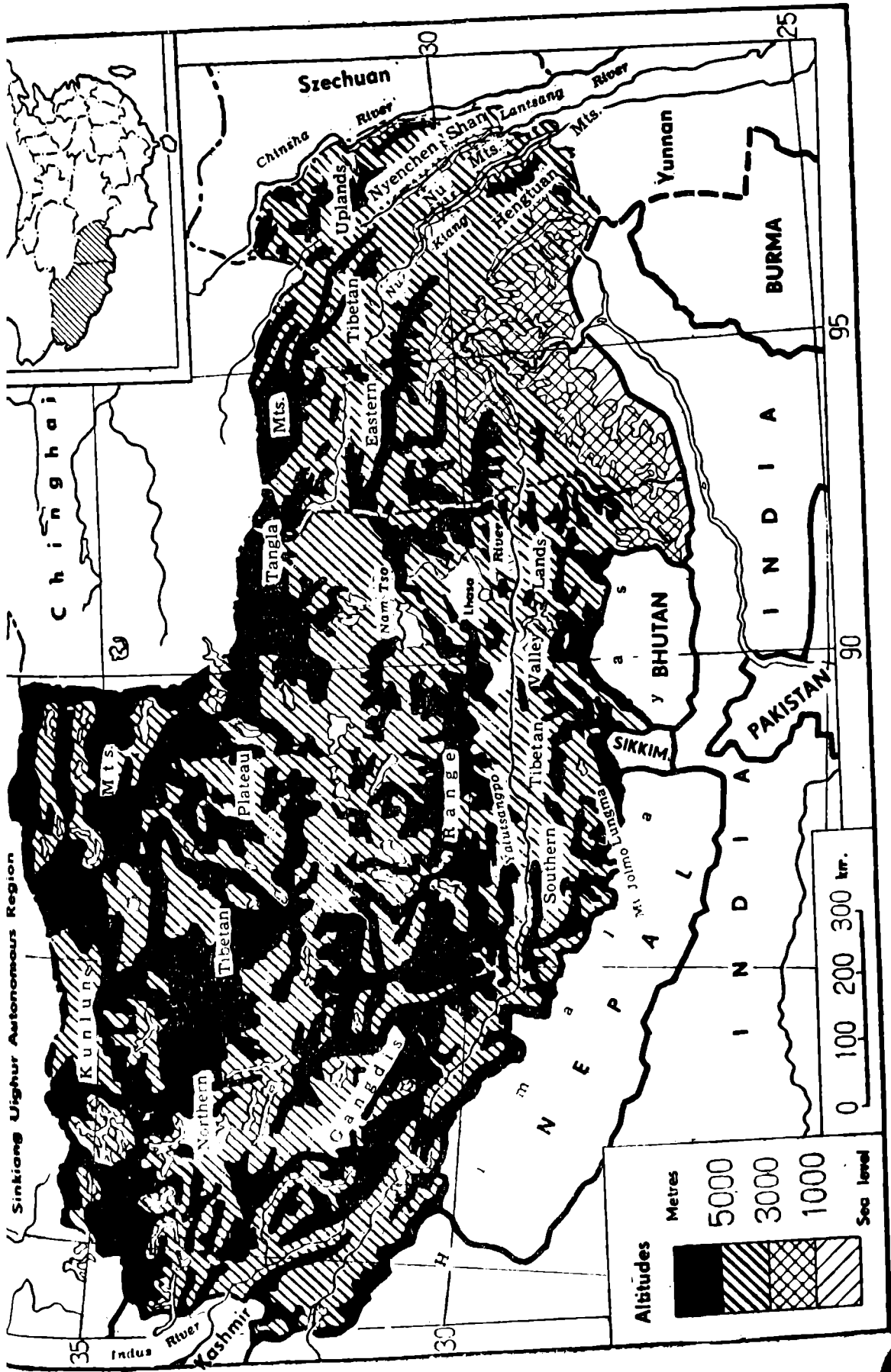
Topographically, the Tibetan Region forms the main portion of the Tibetan Plateau. Ranges of snow mountains and dazzling glaciers punctuated by green forests, vast grasslands and a network of salt lakes present an imposing picture.

The southern part of Tibet consists of mountainous lands and valleys; the northern part is a plateau; and the eastern part consists of uplands.

**Southern Tibet.** The Himalayas and the Gangdis Range,<sup>1</sup> which run parallel to each other in southern Tibet, have an average altitude of more than 5,000 metres with many mounts exceeding 7,000. Jolmo Lungma (Mount Everest), 8,882 metres above sea level, stands in the centre of the Himalayas. As early as 1717 this peak was located on Chinese maps.

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<sup>1</sup> Gangdis is sometimes called by foreigners the Kailas Range.



**Topography of the Tibetan Region**

Between the Gangdis Range and the Himalayas at a height of 4,000 metres is an east-west valley. Here the upper course of the Indus flows west and the Yalutsangpo flows east. The river shores are rather flat. The eastern section of the Yalutsangpo valley consists of many alluvial plains and intermontane basins 3,000 metres above sea, of which the Lhasa Plain is one. Here is the main agricultural district in Tibet. Extensive fields of highland barley, tree-surrounded villages, boats in the rivers, pastures on the slopes, forests and snowy mountains together make a quiet, green valley, home of the Tibetan people who have lived a farming and pastoral life there for two thousand years.

The valleys benefit from the humid current from the Indian Ocean through the valley gaps to the east. Average annual rainfall in many places is more than 1,000 mm. and in the area of Bomi in the eastern section of the Yalutsangpo valley, where there is a substantial expanse of virgin forest, more than 1,500 mm.

**Northern Tibet.** North of the Gangdis Range and south of the Kunlun Mountains is a vast plateau. It is topographically an ancient land mass, formed into a plateau through millions of years of erosion by ice, snow and wind. On the surface there is very little fine soil of any depth but largely gravel and rocks. It is rather an open country though mostly at an altitude of 4,000-5,000 metres. There are many snow-clad mountains. Glaciers are found everywhere. In the valley where it is warmer and the glaciers melt the stones and the silt have blocked the mouths of the valleys to form moraine lakes. Many such inland lakes are found on the plateau, the largest being the Nam Tso,

The lakes in northern Tibet are fed by large and small inland rivers, and are rich in salt and borax, important materials for the chemical industry.

The northern section is much colder and drier than the southern valleys. It is higher in altitude. The colder period lasts more than six months while summer is short, and non-existent in some of the higher places. Sunshine is brilliant, making a wide difference in temperature between the day and night. The local people wear fur coats all the year round. When it gets warm, they drop the coat to the waist and put it back when the sun goes. In winter west winds blow almost every day, bringing sandstorms, sometimes snowflakes or sleet—so violent that men and cattle have to shelter in tents or caves. Rainfall is scarce, being less than 500 mm. for the year.

These conditions produce appreciable effect on plant life. Trees have strong large roots. There are no extensive forests but only scattered shrubs and small herbs and thorny vines. Some spread on the ground. The herbs are mostly of the sedge family, which are used as fodder.

In spring, when growth commences the Tibetan shepherds drive their herd out of the hollows among the hills to graze on the grasslands on which they build tents. This is the most active season on the plateau—some grazing cattle, others gathering salt and borax from the lakes, still others hunting yaks, goats, ponies, and other wild animals. In September when grasses wither, cold winds blow. The Tibetans, carrying with them their half-year gains, once again drive their herds to shelter.

**Eastern Tibet.** Lands west of the Chinsha River and the eastern part of the Chamdo Area are structurally the same as the uplands of western Szechuan, belonging to the Hengtuan Mountain Area. In northern Chamdo Area near the Chinghai Plateau, where the land is open and flat, is a vast grassland.

## Inhabitants and Economic Development

**Inhabitants.** Tibet, with a total population of 1,270,000, is the most thinly populated area in the country, with an average of one person to every square kilometre. The great majority are Tibetans who share with their fellow-Chinese a long history of civilization. Before liberation they were oppressed by the Kuomintang reactionaries and the British imperialists. Living predominantly on animal husbandry, their material and cultural life was extremely miserable, and the population was on the decline.

Since May 1951, when Tibet was peacefully liberated, the Tibetan people have thrown off the imperialist yoke and returned to the motherland as a free and equal member of the great family of nations, and enjoy national equality, freedom of religious belief and all other rights under the Constitution. In the common cause of building the country, they have made steady progress in political, economic, cultural and educational fields. In March 1955, the State Council adopted a resolution for the setting up of a preparatory committee for the Tibetan Autonomous Region (including the Chamdo Area) and assisting Tibet in construction.

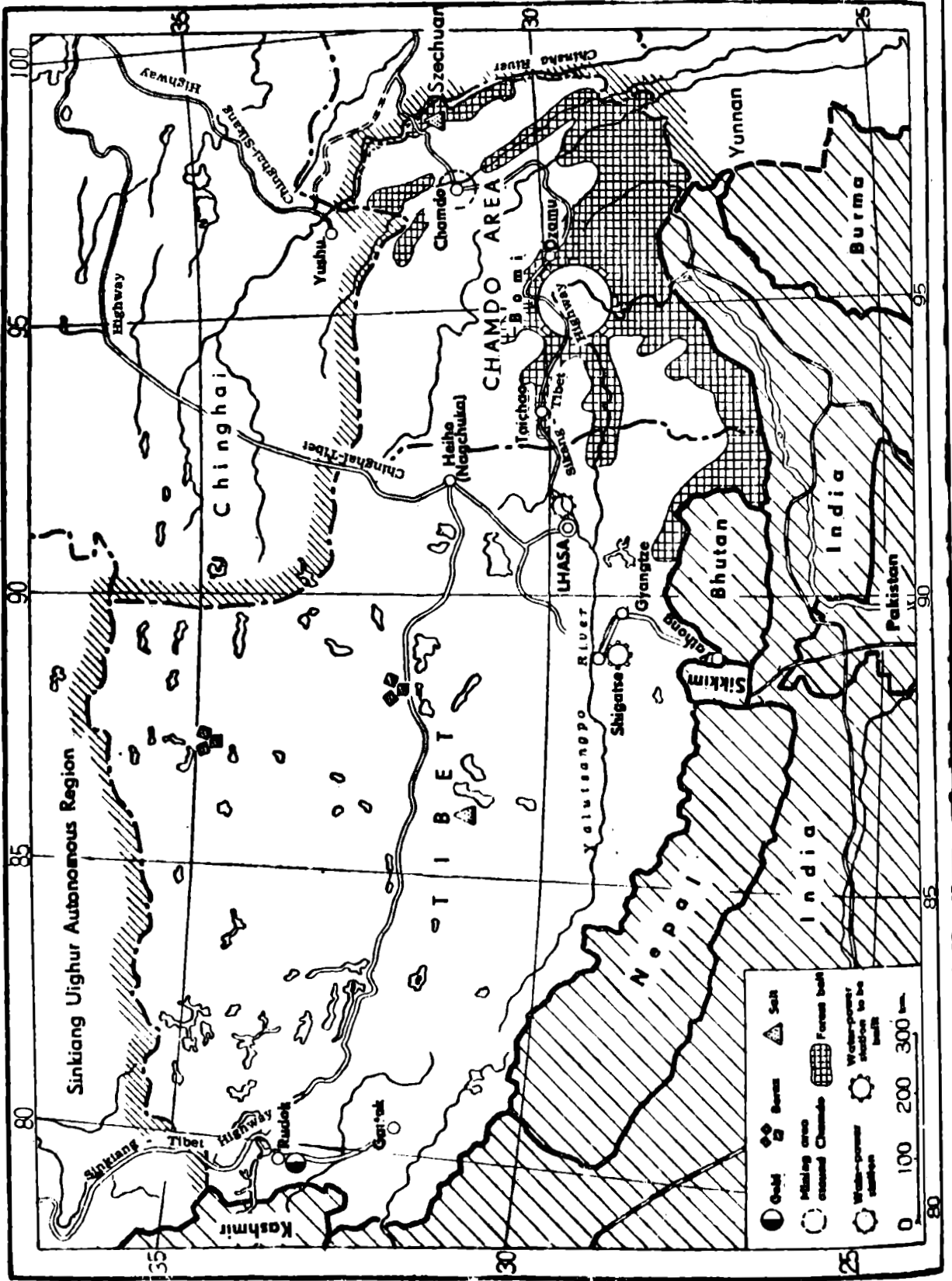
**Economic Life.** In the old days Tibet was considered poor and miserable. But since its peaceful liberation, Chinese scientists have discovered many rich resources underground awaiting exploitation.

This area has extensive grasslands suitable for intensive development of animal husbandry. The yak, Tibet's chief draught animal, is adaptable to the high altitude and cold climate. It serves as a means of transport, and its long hair, its milk, flesh and hide are all utilized. Liberation brought to the Tibetans veterinary science and disease-prevention work. New varieties of fodder grass and sheep have been introduced. Trading companies have been set up and a fair price given for animal products.

With the exception of the very high altitude, crops can be grown in the many fertile valleys and intermontane basins. The valleys in the south are excellent farming areas. In addition to highland barley — the staple food — wheat and rice can also be grown. Formerly, crop yields were small due to backward methods. Since liberation, land reclamation, water conservancy work, establishment of state farms and improvement of farming technique and selection of seed are being carried out. In the past, growing of vegetables was considered impossible. Today a score or so of newly-introduced vegetables return good crops.

This area has forests of great varieties, tall and large in size. For example, the log-canoe of the Bomi district is large enough to hold several dozens of persons. Medicinal herbs like the Tibet-made Red Flower, musk and deer's antler are also important local products.





Tibet has great industrial potentialities. Its water resources are immense and the extent of its minerals is only just being estimated. In the northern plateau are large amounts of salt and borax. Before liberation, however, industry was practically non-existent. The only handicrafts practised were carpet-weaving and animal-products processing. Since liberation four factories have been opened in Lhasa for clothing and footwear, woollen textile, leather, and iron and timber. According to a State Council decision of March 1955 more factories will be built in Lhasa and Shigatse for leather, iron-smelting and hydro-electric power. The efforts of the Tibetan people, supported by the people of the whole country, will steadily transform Tibet into a prosperous region.

## Communications and Cities

In the past, communication in the region was difficult and inefficient. Inland shipping was limited to junks and cow-hide coracles in the middle reaches of the Yalutsangpo River, with capacity for small loads only. On land the yak was the chief means of transport.

After liberation, the People's Liberation Army, together with the Tibetan people, constructed highways over the towering mountains and through the deep valleys. In the latter half of 1954 the Sikang-Tibet (2,250 kilometres, from Yaan to Lhasa) and the Chinghai-Tibet (2,222 kilometres, from Sining to Lhasa) highways were completed and traffic opened. The Sinkiang-Tibet Highway, from Karghalik in southern Sinkiang to Gartok in western Tibet was completed in the latter half of 1957.

Motor caravans brought in the goods which Tibet lacks and took out the local and special products. Along the highways on the plateau new buildings rose; and, one after another, farms, vegetable gardens, post offices, banks, hospitals, etc., appeared. In 1957, with the opening of the Peking-Lhasa airline, Tibet was brought even closer to other parts of China.

Lhasa is Tibet's political, religious, cultural and economic centre. The gorgeous Potala Palace in which the Dalai Lama lives stands on the Potala Hill in the western part of the city. This beautiful structure was built far back in the Tang dynasty. Since liberation, workshops, hospitals, schools, banks and trading companies have sprung up in the city which is becoming more and more prosperous.

Shigatse to the west of Lhasa is another important city in Tibet. Panchen Erdeni lives here. Highways have been built connecting Shigatse with Lhasa to the east, and with Gyantse and Yathong to the south.

## CHAPTER EIGHTEEN

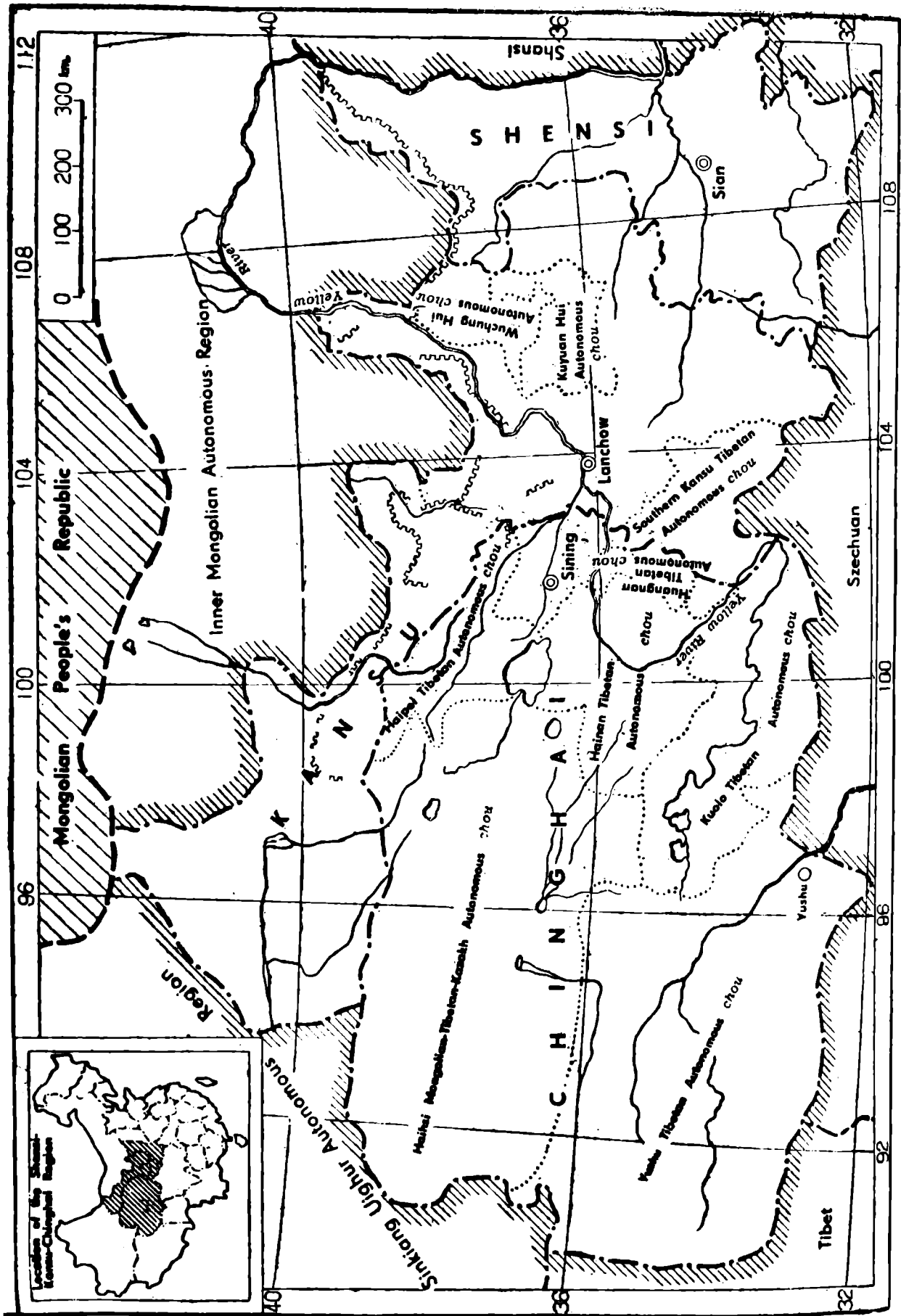
# THE SHENSI-KANSU-CHINGHAI REGION

### Location and Physical Features

This region comprises the three provinces of Shensi, Kansu and Chinghai, totalling 1,340,000 square kilometres. It is situated in the very heart of China, on the short cut from North-east China to Tibet and from the south-eastern coasts to the north-western borders.

Of particular importance is the Kansu Corridor in western Kansu Province that serves not only as a major route between the eastern provinces and Sinkiang, but also as a natural passage linking China with Central Asia. It was through this corridor that Chang Chien (?-114 B.C.), geographical explorer of the Han dynasty (206 B.C.-A.D. 220), went to Central Asia, and that Hsuan-tsang (596-664), a famous monk of the Tang dynasty, travelled to India. Marco Polo took the same route when he came to China in the Yuan dynasty (1279-1368). As early as the Han and Tang dynasties, Chinese silk goods were sent to Central Asia and Europe through the Kansu Corridor which was, therefore, known to the world as the "Silk Road."

Its vastness and varied natural environs lend the Shensi-Kansu-Chinghai Region an intermediate character



The Shensi-Kansu-Chinghai Region. Administrative Divisions

in many respects. So far as topography and climate are concerned, it falls between the humid, flat lowlands in the east and the arid highlands in the west. In terms of water system, it is the meeting point of the internal drainage and exterior drainage systems. It is intermediate between agriculture and animal husbandry. A social characteristic is that many nationalities live in compact communities in the area, including Hans, Tibetans, Huis, Mongolians and Kazakhs.

Topographically, the Shensi-Kansu-Chinghai Region is far from homogeneous. In broad strokes, it can be divided into the following areas:

**The Chinling-Tapa Mountain Area.** The Chinling Range lies west-east in the southern parts of Shensi and Kansu where the mountainous terrain is broad and rugged. Its highest point, the Taipai Mountain, is 4,113 metres above sea level. The Tapa Mountains stretch along the borders between Shensi, Kansu and Szechuan. Between the two splendid mountain systems, one standing in the north and the other in the south, the Han Shui flows eastward. Many low, flat-bottomed intermontane basins and valley plains are found along the banks of this river, the biggest being the Hanchung Basin. Resembling the Szechuan Basin in greenery, the Hanchung Basin is covered with fertile soil, has a warm, humid climate and is, therefore, one of the chief agricultural centres in the Shensi-Kansu-Chinghai Region.

**The Loess Plateau.** Though all belonging to the Loess Plateau, central and northern Shensi and south-eastern Kansu may be classified into three sub-regions: (a) The Wei Ho Plain extending from Paochi in the west to the mouth of the Wei Ho in the east. The width of the plain increases progressively from west to east until it reaches

50-60 kilometres along the river's lower reaches. Less than 400 metres above sea level, the surface of this alluvial plain is not entirely even, dissected as it is by low, smooth-topped mounds and shallow, steep-sided ravines. The thick, loose and fertile alluvial loess, coupled with irrigation facilities along the Lo Ho, Ching Ho, and Wei Ho, makes the plain an important cotton and wheat supplier. (b) The North Shensi Plateau adjoining the Wei Ho Plain in the south, the Lung Shan (Liupan) mountains in the west and the Yellow River in the east. It lies at an elevation of 1,000 metres and is watered by the Ching Ho and Lo Ho. It has a flat top, much like the vast North China Plain. But it is also dotted with some narrow, elongated mountain ridges that have not been covered up by loess. Below are numerous intricate loess gullies. Formed as a result of river erosion, these gullies vary in breadth and depth, the latter being from a few metres to two hundred. (c) The Lunghsi Plateau. Although the Lunghsi Plateau is separated from the North Shensi Plateau only by the Lung Shan Mountains, the former is different from the latter in many respects. Firstly, the Lunghsi Plateau is higher, averaging 2,000 metres and never dropping below 1,000 metres. Secondly, its surface is not in the form of a broad plain. Its topography is marked by fluctuations in height, rounded and gently descending mountain tops, and extensive fields on the slopes. Between the mountains are fairly broad valley plains, dissected by deep gullies that are the result of river erosion. The mountain tops are 100-300 metres from the bottom of the gullies. Thirdly, while the fields on the plain take up a considerable portion of the North Shensi Plateau, fields on the slope account for the bulk of the farmland on the

Lunghsi Plateau. Because the crustal movement under the Lung Shan Mountains began rather late in terms of geographical time and is now still continuing, the Lunghsi area is subject to earthquakes and consequential violent landslides.

**The Kansu Corridor.** The noted Kansu Corridor extends westward from Lanchow, passes the Wuhsiao Mountains and then proceeds along the foot of the Chilien Mountains, finally reaching the Hsinghsing Gorge on the Sinkiang border. Some 1,000 kilometres long, it is flanked by high mountain ranges that overlook the flat, low-lying bottom. Because it is a natural route west of the Yellow River, this area is also known as the Hohsi Corridor (Corridor West of the River). Composed mostly of highlands 1,500 metres above sea level, its terrain resembles that of the Gobi Desert in Mongolia. But the Kansu Corridor is watered by melting snow from the Chilien Mountains. When the thick snow melts in summer, its water flows down along the mountain slopes and creates large numbers of streams of varying size, the biggest being the Jo Shui (Edsin Gol) that goes northward and joins the Chuyen Lake (Gashiun Nor). When these rivers reach the level land at the mountain base, their waters are captured for irrigation. Each river has a number of oases of different size along its banks which have become agricultural and population centres. The Lanchow-Sinkiang Railway, now being built, runs along the Kansu Corridor that also includes the famous Yumen Oilfields on the Gobi Desert.

**The Yinchuan Plain.** East of the Holan (Alashan) Mountains lies a narrow strip of flat depressed land along both sides of the Yellow River. This is known as the Yinchuan Plain. In the past two thousand years,



local peasants have built a web-like network of irrigation canals in the plain. Trees have been planted along these canals that feed water to the square-shaped fields nearby. The whole scene challenges the beautiful landscape south of the Yangtse.

**The Chinghai Plateau.** The plateau rises, for the most part, to 4,000 metres and embraces the whole of Chinghai Province and the south-western tip of Kansu. Here stand many mountains some 5,000 metres high: in the north are the Chilien Mountains, the divide line between the interior and exterior drainage systems; in the centre lie the Bayan Kara Mountains that serve as the watershed of the upper reaches of the Yangtse and Yellow rivers; and along the Chinghai-Tibetan borders tower the Tangla Mountains. Part of the Kunlun system, all these three massive ranges strike west-east and constitute the backbone of the physical structure of this region. Squeezed between them are broad valleys, rolling hilly areas, as well as big and flat tablelands. In most places, rich grass flourishes, offering vast alpine pastures.

Many snow-capped mountains are found in this region. The melting snow provides an abundant volume of water for the upper courses of the Yangtse and Yellow rivers.

In the north-western part of the Chinghai Plateau lies the Tsaidam Basin, an immense, low-lying area between the Bayan Kara and Chilien ranges. It is surrounded by high mountains rising, in most cases, to 4,000 metres. The basin proper is vast and flat and its lowest point is about 2,700 metres above sea level. There are many fertile spots in the piedmont and lakeside areas. The south-eastern part of the basin is a broad swamp formed by a number of rivers originating in the snow mountains.



**Mineral Resources.** The richest mineral resources in the Shensi-Kansu-Chinghai Region are coal, oil, iron-ore, placer-gold and lake salt. One of China's biggest coal-fields is located in the lower reaches of the Ching Ho and Lo Ho on the North Shensi Plateau. Thick coal-seams have been discovered on the southern edge of the plateau along what is called the "Black Belt," 250 kilometres long and five kilometres wide. Famous oil centres are also situated on the North Shensi Plateau as well as along the northern foot of the Chilien Mountains and in the Tsaidam Basin. Rich oil has been found in the vicinity of Yumen County north of the Chilien, and a new oil city has been built there. The biggest iron-ore deposits in North-west China have recently been discovered in the Chilien Mountains area. The ore is mostly specular iron.

Placer-gold is found in the vast area stretching from the Chilien Range to the Chinghai Plateau. The North Kansu and Chinghai plateaus with their numerous salt lakes are among China's major suppliers of lake salt.

## Climate, Soils and Vegetation

The vastness and complex terrain of the Shensi-Kansu-Chinghai Region lead to great variations in climate, soil and vegetation. These differences become more and more apparent from south-east to north-west.

The region south of the Chinling Range has a fairly humid and warm climate. With an annual precipitation of over 600 mm., it is wind-free most of the year and freezing temperatures seldom occur in winter except in the highlands. The soil here is slightly reddish and poor

in lime. Local vegetation is of the warm-temperate zone. Wood-oil trees, citrus fruit and tea are grown. Rice is also widely cultivated.

On the Loess Plateau north of the Chinling, however, winter is dry, cold and windy, but marked by clear skies. Summer is hot and most of the year's precipitation (300-500 mm.) concentrates in this season. The entire region is covered with a thick layer of loose, fertile loess (chestnut calcium soil).

The climate in north-western Kansu, north of the Chilien Mountains, is typically continental, being influenced by its remoteness from the sea and by the mountain rings in the south and east that bar the maritime winds. Average annual precipitation in most places is less than 100 mm. Such a climate makes it difficult for tall plants to grow, so that an overwhelming part of the region is made up of deserts and steppes.

Varied climatic conditions prevail along the Chilien Mountains and on the Chinghai Plateau, with the weather in the Tsaidam Basin resembling that in north-western Kansu. Towering ranges, perpetual snow and little vegetation combine to make the whole place look like a frigid zone. Scattered forests are found at the foot of some mountains where the soil mantle is thicker and the climate warmer and moister. However, despite the low temperature and scanty rainfall, grass thrives on the vast plateau, providing immense pasturelands.

**Sandstorms.** Strong winds from the Inner Mongolian Plateau blanket the fertile farmland in the northern part of the region in a sea of sand. This represents a serious menace to local agriculture, especially in the North Shensi Plateau and the Yinchuan Plain and the oases of the Kansu Corridor, all located in the northern part of

the region. Since 1950 the People's Government has been building sandbreaks along the Great Wall in north Shensi and in the Yinchuan Plain and along the northern section of the Kansu Corridor.

**Soil Conservation.** Wanton felling of trees and irrational reclamation of land in the past have stripped wide areas of vegetal cover. These, plus frequent rainstorms, have been responsible for the serious soil erosion, particularly on the Loess Plateau. It is estimated that 150 million tons of earth is carried away each year by the Wei Ho alone. The amount carried away by the Ching Ho is even greater. Such erosion has changed large areas of arable land into unproductive gullies and increased the silt content of the Yellow River. To call halt to this process of soil denudation, great attention is being paid to soil conservation on the Loess Plateau by the multi-purpose plan for harnessing the Yellow River and exploiting its water resources. Among the many relevant measures worked out are planting of trees along river banks, enclosure of hills for natural afforestation, terracing fields on the hill slopes and banking cultivated slopes, practising close planting, etc. When the project is completed, agricultural production on the Loess Plateau will be expanded enormously and the murky water of the Yellow River will run clear.

**Pastures and Forests.** Occasionally dissected by alpine forests and scrubs, the unbounded steppes on the Chinghai Plateau rank among China's best natural pastures for sheep, horses and yaks. Antelopes, wild horses, wolves, foxes and bears are also found there.

Grass flourishes in the broad valley lands of the Chilien Mountains. In the mountain areas to the east grow luxuriant forests including pines, firs, birches and

poplars. On the steppes and in the forests roam groups of ermines, antelopes, wild asses, etc.

The Chinling and Tapa mountains were originally covered with vast forests. But only some remnants of them are left today because of indiscriminate felling.

## Rivers, Lakes and Their Utilization

Owing to complex topography and uneven distribution of rainfall, the rivers and lakes in the Shensi-Kansu-Chinghai Region differ greatly in type, speed, flow and seasonal changes. Here are both the internal and exterior drainage systems with the latter dominated by the Yangtse and Yellow rivers. The line dividing the two runs from the Holan Mountains westward, passes the eastern section of the Chilien Mountains and the upper Huang Shui and then turns south-west to proceed along the Bayan Kara chain.

Fed largely by melting snow of the high mountains, most of the rivers of the internal drainage basin are short. Their flows vary enormously according to seasonal changes. They are excellent irrigation sources in summer when water is abundant. In this area are many lakes which produce salt in huge quantities.

The Yellow and Yangtse rivers are the main waterways in the area that flow into the sea. The tributaries of the Yellow River, namely, the Wei Ho, Ching Ho and Lo Ho, drain areas north of the Chinling Mountains whereas the upper reaches of the tributaries of the Yangtse River, that is, the Han Shui and Chialing, twist south of the Chinling.

The Yellow River drops sharply between the middle and upper reaches. This produces rapids which, coupled with numerous gorges such as the Lungyang and Liuchia, render the stream difficult for navigation, cow-hide coracles being the only facilities to negotiate. Favourable conditions are, however, available for power generation. In the multi-purpose project for taming the Yellow River and utilizing its water resources, emphasis is put on measures to produce hydro-power along the section between the Lungyang Gorge in Chinghai Province and the Chingtung Gorge in the Yinchuan Plain in order to meet the demands of the new industrial areas there. Large-scale, comprehensive projects will also be built at the Lungyang Gorge in Chinghai, and the Liuchia and Heishan gorges in Kansu. Of these, the reservoir at Liuchia Gorge will be the biggest. When completed before 1967 in the first phase of the plan, it will produce one million kilowatts of electricity every year. When all the multi-purpose projects are finished, apart from the benefit to be derived from power generation, 140,000 hectares of Kansu's farmland will be put under irrigation.

Although rivers in the Shensi-Kansu-Chinghai Region are not very good for navigation, they are of no mean importance for irrigation. All of them carry a heavy flow in summer when the crops are in need of water. As far back as the Chin and Han dynasties, the Chinese people built many irrigation canals in the Wei Ho and Yinchuan plains. These canals have, through the centuries, been extended gradually, so that today many rivers have a number of irrigation works of varying size along their banks. In addition to the irrigation works in the Wei Ho and Yinchuan plains, there are numerous smaller irrigation canals in the Kansu Corridor and Hanchung Basin.

Peasants near Lanchow had also erected large wooden waterwheels along both sides of the Yellow River to divert water to the fields. In Kuomintang days, many of the irrigation canals fell into disuse. Since liberation, they have been repaired one after another and new ones added to increase the irrigated area. Furthermore, the Yellow River project holds out an even broader perspective for the development of irrigation in the Shensi-Kansu-Chinghai Region.

**Lakes.** There are many salt lakes in the region. The biggest one is the Ching Hai (Koko Nor). With an area of 4,000 square kilometres, the Ching Hai lies south of the Chilien Mountains. It is fringed by rich grazing grounds. It breeds many kinds of fish that swarm to the lake-sides and river mouths to lay eggs between June and July every year. The Chaka Nor in the eastern part of the Tsaidam Basin is famed for its production of salt.

## Inhabitants and Economic Development

**Population.** The Shensi-Kansu-Chinghai Region has a total population of 30,420,000, the greater proportion of whom dwell in Shensi and the south-eastern part of Kansu. The Chinghai and North Kansu plateaus are sparsely settled, though they enjoy vast potentials for the development of production and are, therefore, capable of supporting more people.

Many nationalities are found in the three provinces. Apart from the Hans, there are the Huis inhabiting south-eastern Kansu, the Tibetans living in compact communities on the Chinghai Plateau and in south-western Kansu, the Mongolians and Kazakhs scattered around the



Ching Hai and in the eastern part of the Tsaidam Basin, and the Tunghsiangs living in the vicinity of Linhsia in Kansu.

Under the reactionary regime in the past, the people were exploited and oppressed ruthlessly, and they were backward politically, economically and culturally. Since liberation, however, many national autonomous *chou* and counties have been set up, and their conditions improved all round and an unbreakable national unity achieved. Now in south-eastern Kansu, where the Hui people live in compact communities, the founding of the Ningsia Hui Autonomous Region<sup>1</sup> is being prepared.

There are extensive farmlands in the Shensi-Kansu-Chinghai Region and, in general, the soil is fertile, summer temperature high and sunshine adequate. It is true that rainfall is meagre, but many water bodies are available for irrigation. That is why agriculture in this region is fairly well developed, with the Hanchung Basin and the Wei Ho and Yinchuan plains functioning as the major centres. Food crops produced here include wheat, millet, highland barley and rice. Among the key economic crops are cotton, flax and rapeseed. Melons and other fruits cultivated in the Kansu Corridor and near Lanchow are famous.

**Animal Husbandry.** With excellent, vast natural grasslands, the western and northern parts of the Shensi-Kansu-Chinghai Region are traditionally well-known stock-breeding centres. Chinghai horses are known far

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<sup>1</sup> In July 1957, the First National People's Congress made a decision, at its Fourth Session, for the establishment of the Ningsia Hui Autonomous Region. The region will include 19 counties and cities and have an area of 77,800 square kilometres. Of its 1,800,000 inhabitants, the Hui people will take up 30 per cent.

and wide. Chief pastoral products include hides and skins from Chinghai and wool from Kansu.

Animal husbandry declined rapidly under the Kuo-mintang regime. Up to the eve of liberation, the number of livestock in Chinghai over a period of ten years had decreased 40 per cent, and that of horses in former Ningsia Province had dropped 70 per cent. Lack of winter fodder and prevalence of animal diseases took heavy toll; transport difficulties and poor quality resulted in reduced sales. It was only after liberation that the total number of animals began to increase markedly, thanks to the energetic efforts in dealing with animal diseases. The breed of Sinkiang sheep is being propagated in the region and with it the quality of wool improved.

**Industry.** Rich in material resources, the Shensi-Kansu-Chinghai Region possesses good conditions for industrial development. In pre-liberation days, there were only a few cotton, woollen and flour mills. The oil industry in Yumen and salt production around the Kilantai Lake were operated on only a small scale. Since the founding of the People's Republic, restoration and expansion of the existing enterprises have been carried out alongside the development of new industries. Now Yumen has grown into an oil city. Oil refineries, factories for making oil-mining machinery and woollen mills are being built in Lanchow. The city of Sian is now a teeming centre of the cotton textile and electrical equipment industries. Coal reserves are being mined on a large scale in many places along the Lunghai Railway and the partly-finished Lanchow-Sinkiang line.



## Communications and Cities

**Highways and Railways.** The Shensi-Kansu-Chinghai Region is well served by highways that branch out to the adjoining Sinkiang Uighur Autonomous Region, the Inner Mongolian Autonomous Region, Shansi, Honan, Szechuan and Tibet. In old China, there was only one railway in this region — the Lunghai line east of Tien-shui. And of that line, the section between Paochi and Tienshui, because of poor work, was not operating. After liberation, immediate restoration of this section began and work started on the Tienshui-Lanchow, Paochi-Chengtou, Lanchow-Sinkiang and Paotow-Lanchow railways.

The Tienshui-Lanchow Railway which crosses the Lunghsi Plateau, and the Paochi-Chengtou Railway which crosses the Chinling and Pa Shan mountains, have already been completed and opened to traffic. The Paotow-Lanchow Railway running across the Yellow River and deserts several times was completed in July 1958. All of these were difficult projects. The Lanchow-Sinkiang line, cutting through arid deserts, is extending westward at a fast pace. Work on the Lanchow-Chinghai line which will reach Tartin in the vast Tsaidam Basin is going to start very soon.

**Major Cities.** Provincial capital of Shensi, Sian lies in the centre of the Wei Ho Plain. The river flows past it in the north, and the Chinling Mountains stand in the south. This city is built in a walled rectangle, its streets well laid out. It served as the capital of ancient China for a longer period than all other old cities, off and on for 900 years, and has many places of historical interest. But now it is developing into a modern industrial city

with a new thermal-power plant, cotton mills, factories for making electrical equipment and building materials, and meat-processing factories going up one after another. As a result of industrial development, the city's population is now around the million mark.

Lanchow, provincial seat of Kansu, is situated in a mountain-rimmed basin and serves as the industrial and transport centre of the province. Old Lanchow boasted a fairly developed woollen textile industry. But now the city is forging ahead to become a big industrial centre with oil-refining and machine-building industries in the lead. In 1955, its population increased to half a million.

Yenan nestles in the Yen Shui valley in the centre of the North Shensi Plateau. It owes its strategic importance to the surrounding loessal uplands. It became the centre of the Chinese revolution and a cradle of democracy after the arrival in 1935 of the Chinese Workers' and Peasants' Red Army during its Long March. Throughout the anti-Japanese war and the earlier days of the People's Liberation War, Yen-an remained the headquarters of the Central Committee of the Chinese Communist Party, whence the Party and Chairman Mao Tse-tung directed the people's struggle that led to the great victory of the revolution.

Sining is Chinghai's capital and functions as a trading centre for its agricultural and livestock products. It is the starting point of the Chinghai-Tibet Highway that ends in Lhasa. Motor routes also connect Sining with the oil wells in the Tsaidam Basin.

## CHAPTER NINETEEN

# THE SINKIANG REGION

### Location and Physical Features

Formed out of the former Sinkiang Province in September 1955, the extensive Sinkiang Uighur Autonomous Region stretches over an area of 1,600,000 square kilometres, or one-sixth of the whole of China. It is larger than Britain, France, Germany and Italy put together.

Sinkiang lies in the heart of Asia and is the extreme north-western part of China. It borders on the Soviet Union in the north-west from the Altai Mountains to the Pamirs, and on the Mongolian People's Republic in the north-east. South of the Pamirs, it briefly adjoins Afghanistan and Kashmir.

Sinkiang has a continental climate. It is bathed in strong sunshine throughout the year; the sky is seldom cloudy and rainfall is scarce.

The region is inhabited by 13 nationalities, namely, the Uighurs, Kazakhs, Hans, Huis, Khalkhas, Mongolians, Russians, Uzbeks, Tadjiks, Tartars, Daurs, Sibos and Manchus. All these nationalities are bound together by fraternal ties in their determination to develop Sinkiang into a happier and more prosperous land.

Sinkiang is dissected by three majestic mountain ranges, the Kunlun in the south, the Altai in the north and the Tien Shan in the centre. Caught between these three chains are two immense basins: the Tarim Basin in southern Sinkiang bounded by the Kunlun and Tien Shan; and the Dzungarian Basin in northern Sinkiang lying between the Tien Shan and Altai. According to geological data, the two basins had been old land blocks that were the first to emerge from the sea in ancient times when the mountain systems of today were still lowlands under water. In the course of violent crustal movements that ensued, the submerged lowlands were thrown up to form high mountains while the old land blocks sank to become the bottoms of the basins. The rock salt in the Tien Shan was deposits left by the ancient sea.

**The Tien Shan.** Cutting across the central part of Sinkiang, the Tien Shan range and its valley extend from the Pamirs in the west to the eastern border, accounting for one-fifth of Sinkiang's total area.

The city of Urumchi divides the Tien Shan into two sections. The western half is higher, the average elevation being 3,000 metres above sea level, and has large numbers of snow peaks and glaciers. There are also many narrow valley lands between the mountains, the most famous being the Ili Valley. This is a slightly rectangular lowland watered by the Ili River. It owes its prosperity to the moister climate that favours agriculture and animal husbandry.

The eastern section of the Tien Shan range is mostly 2,000 metres above sea level. Here between the mountains are the famous Turfan Depression and a number of broad plateaus. The bottom of the Turfan Depression,

154 metres below sea level, is the lowest land point in China. Facing the distant Ili Valley, it is another fertile land in the Tien Shan.

**The Tarim Basin.** About 1,000 metres above sea level, the Tarim Basin takes up more than a half of the total area of Sinkiang. Its western section is higher than the eastern section. Many rivers descend into the basin from the mountains in the north and south. A string of oases have been formed out of fertile river silt.

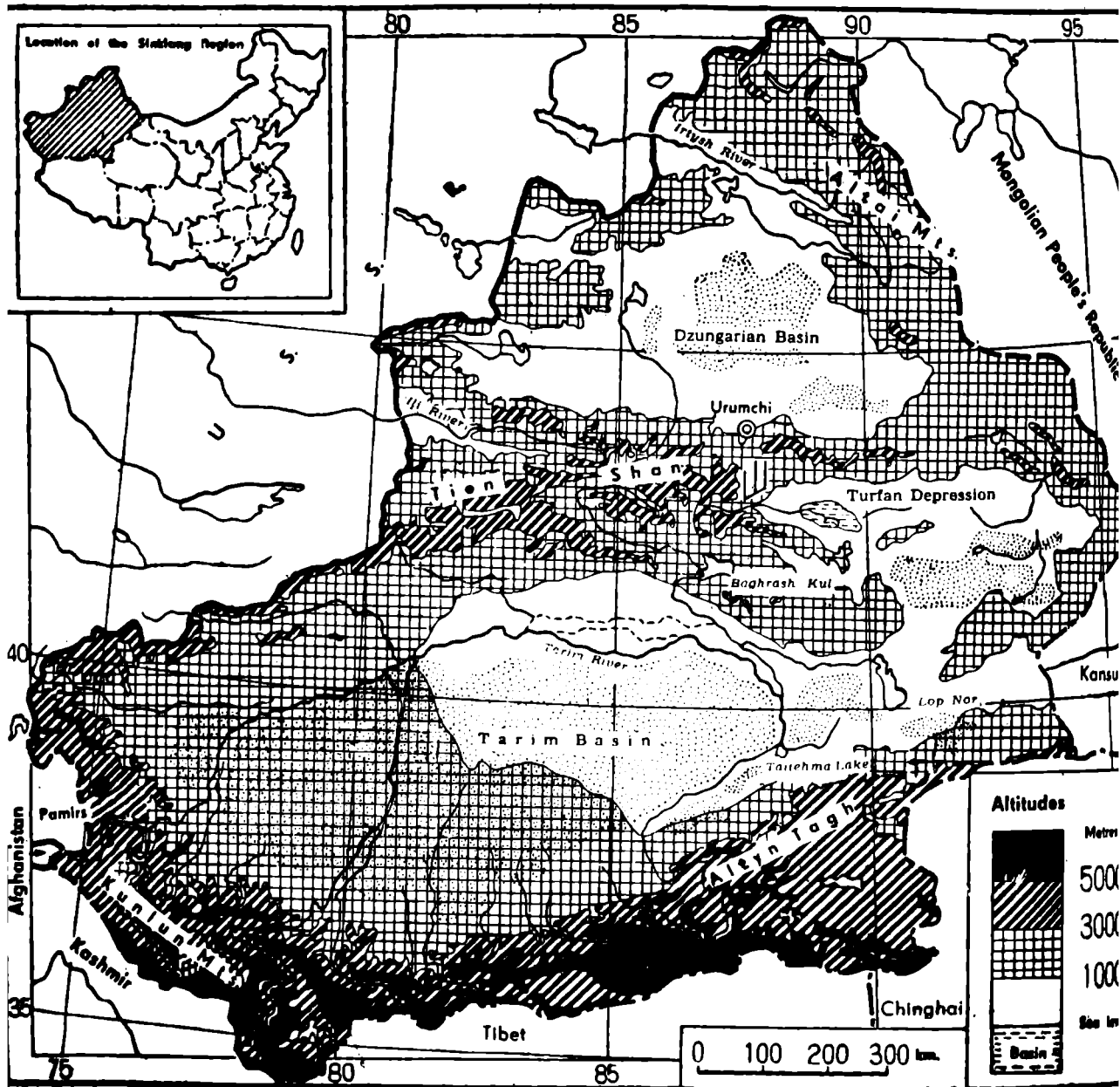
The Tarim River, China's biggest inland river, skirts the northern fringe of the vast desert land before entering the Lop Nor and the Taitehma Lake in the east. The area west of the Lop Nor is covered mainly with fine sands, undulating sand dunes being seen everywhere. East of the Lop Nor is an area of rock desert, strewn with small stones.

**The Dzungarian Basin.** This triangular basin has a floor 500 metres above sea level. East of it, the Tien Shan and Altai mountains lie close to each other. Along the Sino-Soviet borders west of the Dzungarian Basin, the terrain is characterized by massive mountains adjoining depressed valleys. Here are a number of routes connecting China with the Soviet Union.

Because the slope of the area is to the west all the larger rivers flow east-west. The Irtysh River, the biggest, flows into the Soviet Union and forms the headwater of the Ob there. It is the only river in Sinkiang that has an outlet to the sea and the only one of China's rivers that empties into the Arctic Ocean.

The Dzungarian Basin has a mixed landscape marked by big mountains, deserts, steppes, salt lakes and swamps. Its desert land is confined to the central and eastern parts and is much smaller in area than that in the Tarim Basin.





**Topography of the Sinkiang Region**

**Chief Minerals.** Sinkiang enjoys richly-varied mineral resources including oil, coal, iron-ore, gold, sulphur, jade, gypsum, salt and many non-ferrous metals. Of these, five items—oil, coal, gold, salt and jade—hold particularly important places. Oil is found chiefly in Karamai in the Dzungarian Basin and along the northern and southern bases of the Tien Shan. Sinkiang ranks among China's foremost regions for its rich coal reserves that are also spread along the northern and southern bases of the Tien Shan. The anthracite discovered near Urumchi and Turfan is well known.

Deposits of rock and lake salt are widespread in Sinkiang. Areas along the Tien Shan range are famous for their good rock salt. Since ancient times, the Altai Mountains have been reputed for their gold and Khotan in southern Sinkiang for its jade. The iron-ore deposits found around Urumchi claim a high iron content and are being mined at present.

## Climate, Soils and Animals and Plants

**Climate.** Sinkiang has an arid climate. The Tarim Basin receives annually less than 100 mm. of rain, the Dzungarian Basin 250 mm. Sinkiang has a long, cold winter and a short, torrid summer. With a maximum summer temperature of 46° C or more, the Turfan Depression is the hottest point in China. Day temperature in summer is very high but it may drop suddenly after nightfall. The local people are used to experiencing four seasons in 24 hours. Storms are common in autumn and winter, and whirlwinds often occur in the deserts. The southern part of Sinkiang is frost-free for 210 days and

the northern part 150 days. With the arrival of spring, mountain snow begins to thaw and the water, as it reaches the plains, is captured by the peasants for irrigation.

**Soils and Plants in the Mountains.** Many of Sinkiang's mountain peaks are clad in permanent snow and glaciers. Forests are developed below the snow line. The Tien Shan are noted for their spruce and the Altai Mountains for their pines. Below the forest belts are mainly desert brown soil. There, luxuriant tender grass is grown and flocks of grazing cattle are seen everywhere. Some fertile fields are to be found where the river valleys are low and flat.

More than 20 varieties of wild animals wander in the alpine forests and grasslands. They include camels, cattle, horses, antelopes, yellow goats, otters and the valuable fur-bearing silver foxes. With horns as long as two feet or more, the wild cattle weigh as much as 1,000 kilogrammes.

**Soil and Plants in the Basins.** The basins in Sinkiang can be divided into three zones — gravel, oasis and desert — in terms of the distribution of soils and plants: (a) Gravel zone — When waters come down from the melted mountain snow to the gravel zone at the mountain bases, they usually disappear underground. Vegetation is rarely seen. A small number of big, open streams appear above the gravel only when they have an exceptionally abundant volume of water. (b) Oases — Below the gravel zone is found the highly fertile alluvial calcium soil. Here, natural vegetation consists mainly of green grass and scrubs. In the south, the oases are fringed with deserts while in the north they are often surrounded by pastures. (c) Deserts — The vast deserts are covered chiefly with desert calcium soil apart from small patches

of salty soil. Vegetation is little known and only green grass, reeds and scrubs flourish on the sides of lakes and rivers.

Big rivers in southern Sinkiang are lined for five to fifty kilometres with shrubs, mainly tamarisks and yellow tacamahacs. A major fuel in the south, tamarisks have slender leaves and grow rapidly. They are so deeply rooted that they continue to grow even if the topsoil and sands are blown away and an increasing amount of surface water is lost through evaporation. Yellow tacamahacs yield a great amount of resin with a high alkali content that is used by local people to make soaps or cure stomach troubles.

Few wild animals are found in the basins and still fewer live in the deserts. Only flocks of wild boars roam on the basin edges; deer, antelopes, wild cats and a very small number of tigers, wolves, foxes and lynxes scurry in the mountain valleys. The lakes, the biggest being the Lop Nor and the Baghrash Kul, are rich in fish life.

## Inhabitants and Economic Development

**Population and Nationalities.** Sinkiang has a total of 4,870,000 people, two-thirds of whom live in the south. It is a multi-national region with the Uighurs making up 74 per cent of the total population, mostly in southern Sinkiang.

Since liberation the various peoples in Sinkiang have taken energetic measures to build water conservancy works, develop agricultural production, exploit the local mineral resources, expand trade and put up factories. Over-all production has increased and all the peoples are

leading a happy life that is marked by fraternity and mutual help.

**Water Conservancy Projects.** Sinkiang enjoys good conditions for expanding irrigation. The countless streams fed by the melting snow from big mountains supply water to the fields lower down.

Armed with valuable experience gained in the long past, the peasants in Sinkiang have achieved brilliant successes in water conservancy and irrigation. In addition to digging ditches and canals to bring the melting mountain snow to the fields, they have an ingenious way of tapping underground water on gentle slopes at the foot of the mountain ranges. Where a water-bearing layer is found, a well is sunk to water level. Then, following the direction of the water-bearing layer, down the mountain slope to the flat plain, a series of wells are sunk at intervals of twenty metres or so. This done, a subterranean passage is dug connecting the bottoms of the wells, through which the excavated earth and rock are hoisted up and removed. The passage, when completed, becomes an underground canal along which water flows till it emerges on to level ground. Here it is diverted by small ditches into the fields. This system of irrigation is called a *kareze*. These *kareze* sometimes run many kilometres under the desert. In this way, instead of being locked and wasted, the underground water is turned into an almost inexhaustible source of irrigation. Furthermore, as it flows underground, it is not exposed to quick evaporation or absorbed by the parched earth. In arid Turfan and Hami where water is too precious to be wasted, farmlands are largely irrigated by *kareze*.

Since liberation units of the People's Liberation Army stationed in Sinkiang have done much to utilize the water

resources for the development of production. Besides helping the local peasants to restore existing irrigation works, they have built a number of modern water conservancy projects including the Hungyenchih Reservoir off Urumchi and the Red Star Canal at Hami. These have brought more land under cultivation and, what is more important, shown the people how to make a greater use of the water resources, thus encouraging them to undertake other water conservancy projects. Figures up to 1957 showed that Sinkiang's cultivated area had been expanded to 1,730,000 hectares from 1,060,000 hectares in 1949, the year of liberation.

**Agriculture.** Sinkiang has broad areas where agriculture is carried on. A wide variety of food and cash crops are grown, such as wheat, maize, rice and cotton. Its delicious fruit include Shanshan and Hami melons, Turfan grapes, and apples, pears and Chinese "dates," a delicacy with an outward appearance somewhat similar to the dates of world commerce. On its steppes graze herds of sheep, cattle, horses and camels. So far, rural economy still reigns in this part of China.

Since the founding of the People's Republic, tremendous agricultural accomplishments have resulted from national unity and mutual help, development of water conservancy and improvement of stock breeds. The output of various crops and the animal population have all surpassed the pre-liberation figures by a wide margin. In the past, Hami and Yenki were short of grain. But now they are not only self-sufficient but also have quantities to spare.

**Industry.** Though a land of immense buried wealth, Sinkiang had no modern industry to speak of before liberation. It was only after the birth of New China that new factories appeared and mining of oil, non-ferrous



metals, coal and iron-ore began. Now the Karamai-Urho area is a growing oil centre. Furthermore, cotton mills, a motor repair works, cement factories, and a hydro-power station have been built in Urumchi. A mechanized silk filature has also been set up in Khotan.

## Communications and Major Cities

Urumchi is the administrative centre of the Sinkiang Uighur Autonomous Region. It lies at the northern foot of the Tien Shan and leans against the heavy-flowing Urumchi River in the west. The city has broad streets and neat-looking buildings.

Where there was nothing before in Urumchi's northern suburbs, the local People's Liberation Army units have helped to build a collective farm that has irrigation canals to water vast tracts of newly opened land. Members of this farm include Hans, Huis, Uighurs, Kazakhs, Sibos and Russians who are united and work with joy in an atmosphere of fraternity.

Urumchi also acts as Sinkiang's transport centre, from which highways go to Lanchow in the east, Tacheng (Tarbagatai) and Suiting in the west and Kashgar and Khotan in the south. The city of Urumchi is also served by regular airliners that fly east to Lanchow and Peking, south to Kashgar and west to the Soviet Union.

Sinkiang is linked with Tibet by the new Sinkiang-Tibet Highway, which starts from Karghalik in the south. It is expected that the whole length of the Lanchow-Urumchi-Aktogai Railway now under construction will be opened to traffic in 1959. This line is of great importance for strengthening the links between China and the Soviet Union.



## CHAPTER TWENTY

# THE INNER MONGOLIAN REGION

### Natural Environment

The Inner Mongolian Autonomous Region has a total area of 1,170,000 square kilometres, and borders on the North-east Region on the east, the Kansu Corridor of the Shensi-Kansu-Chinghai Region on the west, and the Mongolian People's Republic and the Soviet Union on the north. Its length east-west measures more than 2,000 kilometres.

Topographically, the greater part of this region is a part of the Mongolian Plateau, about 1,000 metres above sea level. The higher ranges are the Greater Khingan to the east, Yin Shan in the middle and Holan (Alashan) Mountains along the south-western border, with many peaks over 1,500 metres.

The climate is continental. With the exception of the Greater Khingan Mountains and the south-eastern part which benefit from the sea winds and receive up to 500 mm. of precipitation, all other places have less than 250. The lower reaches of the Edsin Gol to the west has the least rainfall — less than 50 mm. Winter is cold, the average temperature in most places being under  $-10^{\circ}$  C. The difference between winter and summer is more than

30 degrees. Between the day and night, difference is also great.

As there is little rainfall and the sands and gravels absorb water, rivers are rare on the plateau. Except the large rivers, such as the Argun River (upper Heilung Kiang) and West Liao Ho in the eastern part and the Yellow River in the south-western part which flow into the sea, all others are small inland rivers, the lower reaches of which are dotted with pools and lakes. The Gashiun Nor and Sokho Nor are, for example, lakes formed by the waters of the Edsin Gol. Lakes are numerous but dry up in winter. Most of the lakes — Kulun Nor, Bor Nor, Kilantai Lake and Gashiun Nor — are large lakes. Under dry weather, lake waters easily evaporate; they contain large amount of salt and sodium carbonate.

These are the conditions on the plateau. Entirely different are those on the plains. East of the Greater Khingan Mountains, and around Hotao and Huhehot, are plains below 1,000 metres with the eastern plains below 500 metres. Greater rainfall and a network of waterways formed by the Yellow River, the West Liao Ho, the Nun Kiang and their many tributaries present a sharp contrast to the plateau.

**Soil and Vegetation.** Around the Greater Khingan Mountains, climate is cold and humidity is high. Coniferous trees grow in the mountains. There are not many kinds of trees; the deciduous pines are more common. At the piedmont belt where the temperature is rather warm, broad-leaf birch, elm and chestnut-leaved oak are grown. In the forests, soil is largely less calcareous and is podsolized forest soil and turfy podzolic soil. Westwards from the Greater Khingan Mountains, with diminishing rains, the soil gradually turns into calcium desert soil;



vegetation gradually turns into grasslands and desert. In summer large parts of the plateau are covered by grasses to form one of the vast natural pasturelands in China. With little rainfall, the plants adapt themselves to the dry surroundings. For example, the leaves of tamarisk are like narrow fish scales attached to the branches so as to avoid evaporation; the roots of some plants penetrate some 240 centimetres underground to absorb water.

In the forests and on the grasslands live many wild animals. In the Greater Khingan forests are squirrels, sables, black bears, deer and roebucks. On the grasslands are herds of yellow goats, weasels, wild asses, wolves and pheasants. Sables, squirrels and deer are main targets of the hunters because of their economic value. Weasels and wolves are the herdsmen's enemies. Weasels, by burrowing, destroy the grassroots and often make a whole section barren. Wolves are a constant menace to the livestock. In recent years, successful efforts have been made to destroy the pests and cattle losses have been greatly reduced.

## Inhabitants and Economic Development

**Population and Nationalities.** Inner Mongolia has a population of 739,000. The majority lives in the farming areas on the plains — the Hotao and Huhehot plains and the plain east of the Greater Khingan Mountains. In the pastoral areas, population is small.

Besides the Han and the Mongolian peoples, there are Olunchuns and Owenkes. The Hans are mainly engaged in agriculture. The Mongolians are widely distributed, mostly engaged in animal husbandry. The Olunchuns

living in the forests of the Greater Khingan Mountains are hunters. In the past, the reactionary rulers sowed dissension among different nationalities, causing conflicts between the agricultural and pastoral people. Production was extremely backward and the inhabitants lived a miserable life. With the establishment of the Inner Mongolian Autonomous Region, the people of all nationalities have united. Rapid progress has been made in agriculture, industry, transport and communication.

**Production.** The plains — east of the Greater Khingan Mountains, around Huhehot and Hotao — with reasonably adequate precipitation and rich soil are the chief agricultural areas of Inner Mongolia.

Irrigation is well developed and greatly helpful in the Hotao and Huhehot plains which are criss-crossed by a multitude of rivers and canals. Main crops are oats, millet, maize, and soya beans. Since liberation, beet planting has been greatly expanded along the Peking-Paotow Railway to meet the rising needs of the sugar industry.

As a result of expansion of irrigated area and improvement of farming methods, all crop yields have greatly increased. As far as food grain is concerned, this region now has a surplus. In 1956, food grain production reached an average of 1,350 catties per person (agricultural population), that is, nearly double the national per-capita average of that year.

On the extensive grasslands, the activities of the Mongolian people from early times were devoted to stock-raising — cattle, sheep, horses, camels. The methods were, in general, unscientific and wasteful and the feudal social set-up meant that the ordinary people had a harsh existence. With liberation the People's Government inaugurated the policy of assistance and development. It guided

the herdsmen in the growing of fodder; it supplied veterinary service, instructed in improving breeds, controlling animal diseases, building sheds and cattle-folds, storing fodder, drilling wells and destroying wolves.

Co-operation has developed. As a consequence the number of livestock has increased in all places, and the living conditions of the herdsmen vastly improved. In 1947, the number of cattle was 8,280,000, but in 1956 it increased to 24,300,000.

The Greater Khingan Mountains are one of the main forest areas of China. Before liberation this was an almost uninhabited area. Only the Olunchun people came to hunt. Now the forest timber is felled according to plan. Light railways have been built into the forests and a new town, Tuliho, has risen. Today large quantities of timber go out from the Khingan to other parts of the country.

On the basis of the development of agriculture and animal husbandry, mills and factories have been built — flour, dairy, meat processing, fat and oil, woollen textile, leather, farm tools, sugar — in the cities of Hailar, Huhehot, Paotow, etc.

Mineral resources are salt in Kilantai and Dabasu lakes, natron in Kulun Nor and Bor Nor, and asbestos and mica in Taching Mountains. Coal near Paotow and iron at nearby Bayin Obo will soon be utilized by the vast integrated iron and steel enterprise now under construction. Paotow will become one of China's great iron and steel centres.



## Communications and Cities

On the extensive grasslands, horses, camel caravans and bullock carts are means of transport generally, but highways are multiplying, and more railways are being planned. There are at present four rail lines: The Harbin-Manchouli line, across the north-eastern part, connects with the Siberian Railway near Manchouli on the Sino-Soviet border. The Peking-Paotow line in the south is the main communication line between this region and the North China Plain. The Chining-Erhlien line runs between Chining on the Peking-Paotow line and Erhlien at which it is connected with the railway of the Mongolian People's Republic to reach Moscow by the much shorter route via Ulan-Bator. The Paotow-Lanchow line which was completed in July 1958 runs along the Yellow River up to Lanchow.

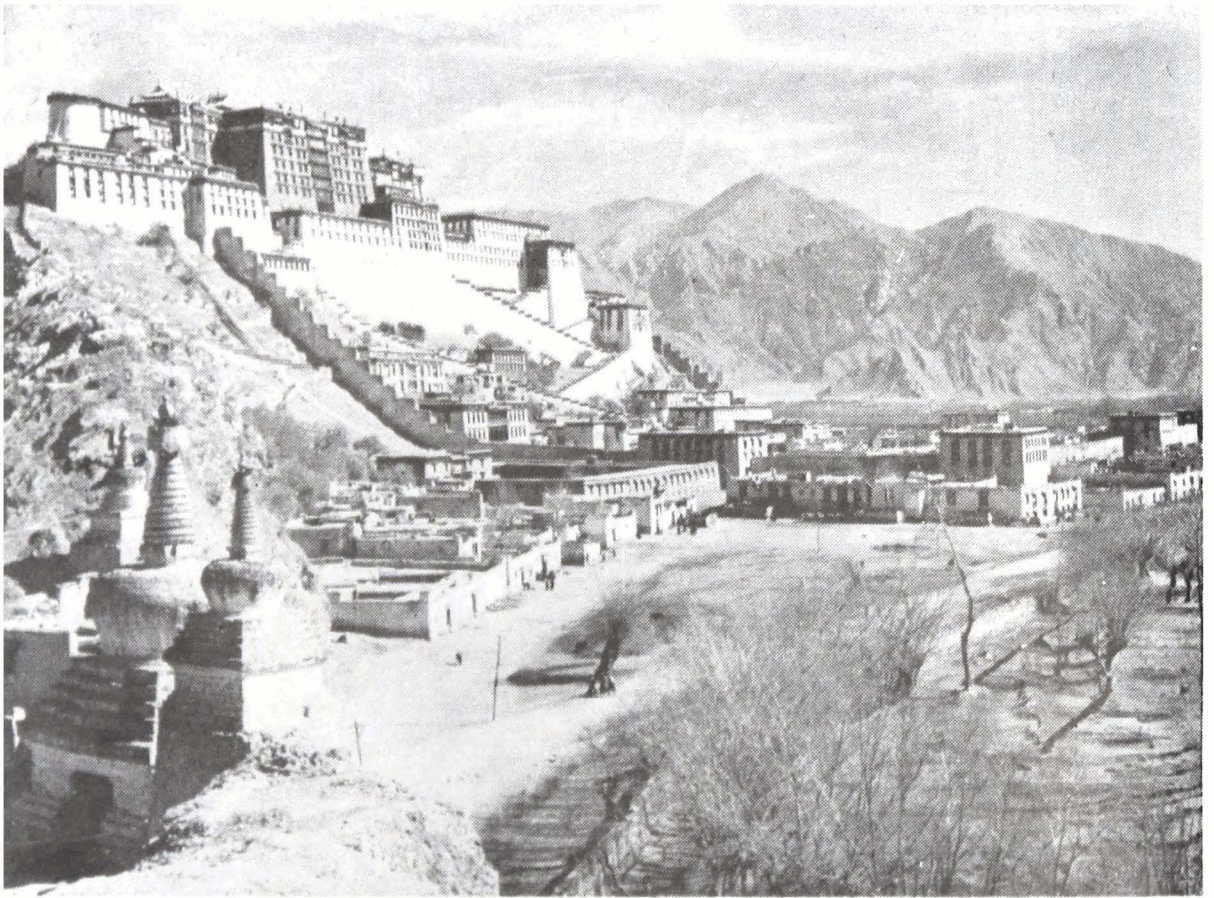
Huhehot and Paotow are important cities in this region. Huhehot, the capital of the Inner Mongolian Autonomous Region, has well developed industry and trade. Paotow is a collecting and distributing centre for farm and animal products in the south-western part of this region, but it will, in addition, soon be one of China's important centres of heavy industry.







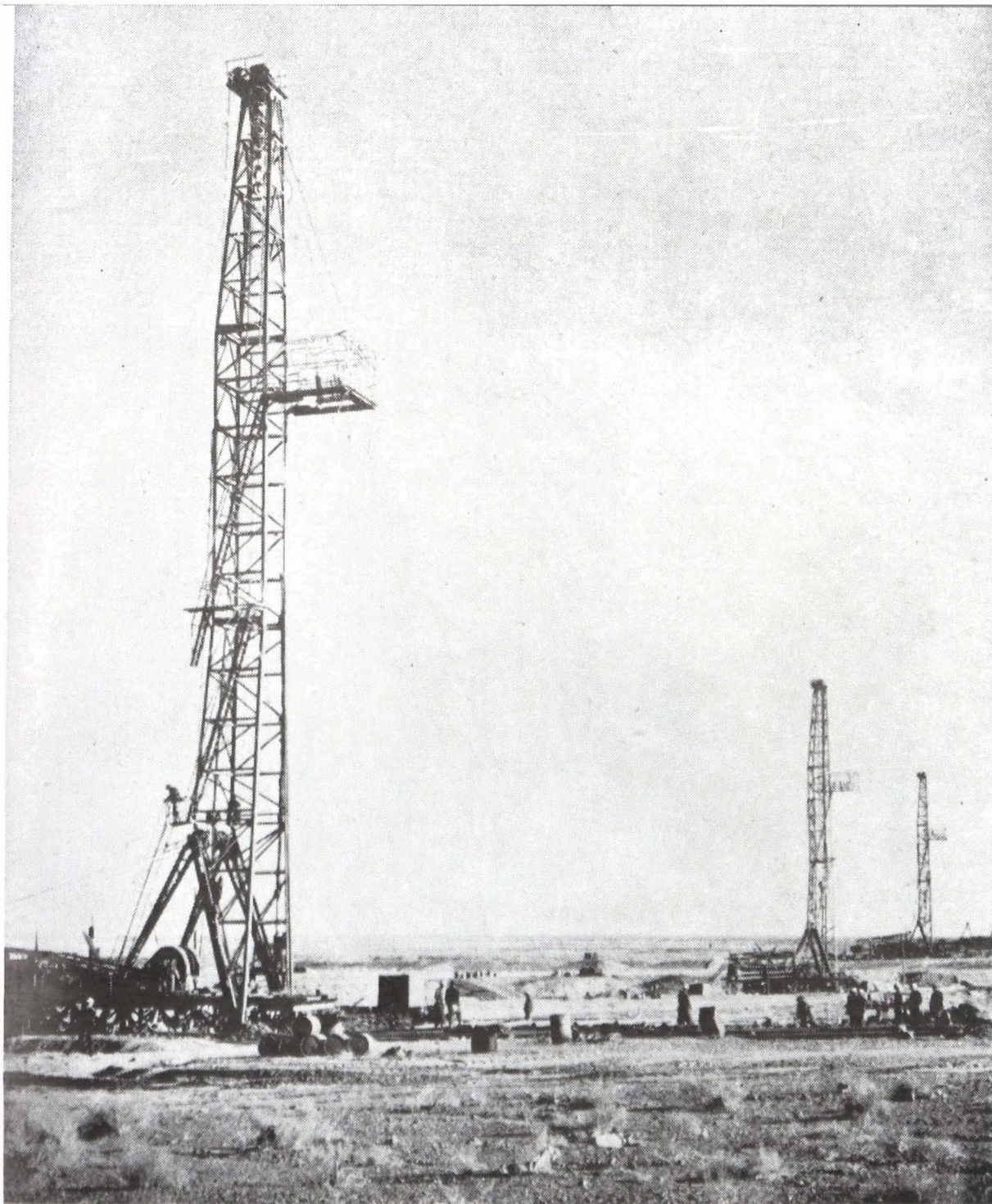
**Huangkuoshu Waterfalls in Kweichow Province**



**Potala Palace, Lhasa**

**A section of the Sikang-Tibet Highway**





**Scene on the Karamai Oilfield in Sinkiang**



**Camel caravan in Inner Mongolia**

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